Jan DELAVAL
Please. Thanks!

Access DB# 58641

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Josephine YOUNG Examiner #: 79813 Date: 3/10/2003
Art Unit: 1623 Phone Number 308-1201 Serial Number: 09/948,243
Mail Box and Bldg/Room Location: 8D04 / 8B19 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Enantiomers of S-Adenosyl-L-methionine

Inventors (please provide full names): HEBERT, Rolland F.

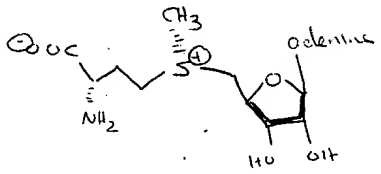
Earliest Priority Filing Date: 8/30/2000

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

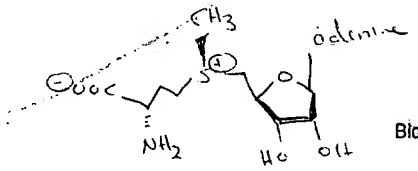
Attached: 1) Pending Claims; 2) Bib Sheet (No Assignment Info)

Please search: salts of (S,S) or (R,S)-S-adenosyl-L-methionine (SAM or SAMe)

note: salts of SAM/SAMe are all over the prior art, but I don't know about salts of enantiomerically pure/enriched SAM.



(S,S)-SAM



(R,S)-SAM

Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
CM1 1E07 – 703-308-4498
jan.delaval@uspto.gov

Thanks!

****

STAFF USE ONLY

Searcher: _____
Searcher Phone #: 4498
Searcher Location: _____
Date Searcher Picked Up: 3/22/03
Date Completed: 3/22/03
Searcher Prep & Review Time: _____
Clerical Prep Time: 15
Online Time: + 35

Type of Search

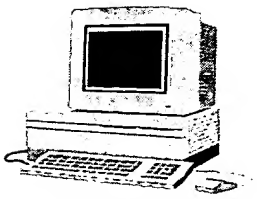
NA Sequence (#) _____
AA Sequence (#) _____
Structure (#) ✓
Bibliographic _____
Litigation _____
Fulltext _____
Patent Family _____
Other _____

Vendors and cost where applicable

STN ✓
Dialog _____
Questel/Orbit _____
Dr.Link _____
Lexis/Nexis _____
Sequence Systems _____
WWW/Internet _____
Other (specify) _____

PTO-1590 (8-01)

BioTech-Chem Library
Search Results
Feedback Form (Optional)



Scientific & Technical Information Center

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please contact ***the BioTech-Chem searcher*** who conducted the search ***or contact***:

Mary Hale, Supervisor, 308-4258
CM-1 Room 1E01

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* *(Example: 1610)*
- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

  Types of relevant prior art found:
  - ☐ Foreign Patent(s)
  - ☐ Non-Patent Literature
    (journal articles, conference proceedings, new product announcements etc.)
- *Relevant prior art **not found**:*
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Search results were not useful in determining patentability or understanding the invention.

Other Comments:

Drop off completed forms at the **Circulation Desk CM-1,** or send to Mary Hale, **CM1-1E01 or e-mail mary.hale@uspto.gov.**

=> fil reg
FILE 'REGISTRY' ENTERED AT 13:52:18 ON 22 MAR 2003

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 21 MAR 2003 HIGHEST RN 500256-84-8
DICTIONARY FILE UPDATES: 21 MAR 2003 HIGHEST RN 500256-84-8

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

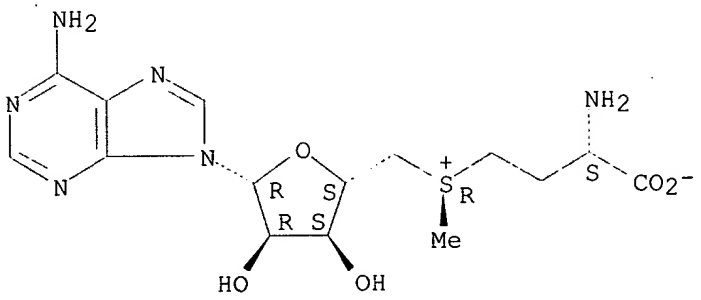
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> d ide can tot l29

L29 ANSWER 1 OF 12 REGISTRY COPYRIGHT 2003 ACS
RN **91279-78-6** REGISTRY
CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, inner salt (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C15 H22 N6 O5 S
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



9 REFERENCES IN FILE CA (1962 TO DATE)
9 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 138:24947

REFERENCE 2: 136:205441

REFERENCE 3: 136:5067

REFERENCE 4: 129:339812

REFERENCE 5: 112:135028

Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
CM1 1E07 - 703-308-4498
jan.delaval@uspto.gov

REFERENCE 6: 110:3615

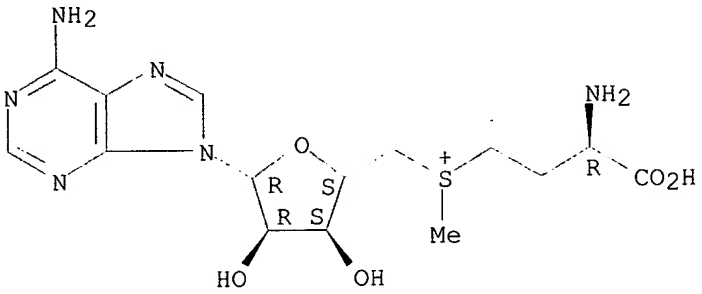
REFERENCE 7: 107:213991

REFERENCE 8: 105:56829

REFERENCE 9: 101:68349

L29 ANSWER 2 OF 12 REGISTRY COPYRIGHT 2003 ACS
RN 79845-28-6 REGISTRY
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, (3R)-(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C15 H23 N6 O5 S**
LC STN Files: BEILSTEIN*, CA, CAPLUS, CHEMINFORMRX, GMELIN*
(*File contains numerically searchable property data)

Absolute stereochemistry.

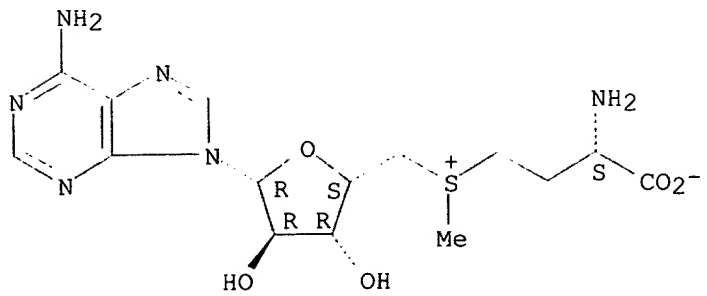


1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 95:204346

L29 ANSWER 3 OF 12 REGISTRY COPYRIGHT 2003 ACS
RN 79647-17-9 REGISTRY
CN 9H-Purin-6-amine, 9-[5-[(3-amino-3-carboxypropyl)methylsulfonio]-5-deoxy-.beta.-D-xylofuranosyl]-, inner salt, (3S)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C15 H22 N6 O5 S**
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.

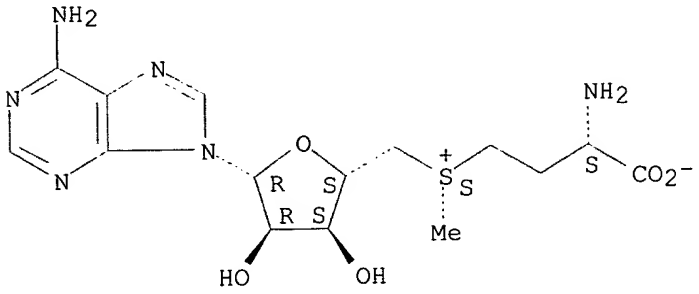


1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 95:215762

L29 ANSWER 4 OF 12 REGISTRY COPYRIGHT 2003 ACS
RN **78548-84-2** REGISTRY
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, inner salt (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, inner salt, [5'(S)-(R*,R*)]-
FS STEREOSEARCH
MF C15 H22 N6 O5 S
CI COM
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



11 REFERENCES IN FILE CA (1962 TO DATE)
11 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 138:24947

REFERENCE 2: 136:205441

REFERENCE 3: 136:5067

REFERENCE 4: 129:339812

REFERENCE 5: 112:135028

REFERENCE 6: 110:3615

REFERENCE 7: 107:213991

REFERENCE 8: 105:56829

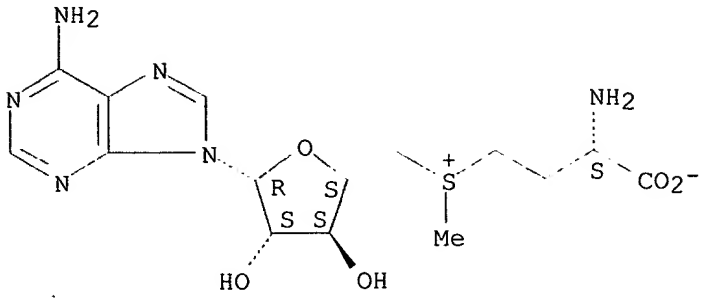
REFERENCE 9: 101:68349

REFERENCE 10: 98:211839

L29 ANSWER 5 OF 12 REGISTRY COPYRIGHT 2003 ACS
RN 75044-81-4 REGISTRY
CN 9H-Purin-6-amine, 9-[5-[(3-amino-3-carboxypropyl)methylsulfonio]-5-deoxy-.beta.-D-arabinofuranosyl]-, inner salt, (3S)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN S-5'-[9-(.beta.-D-Arabinofuranosyl)adenyl]-L-methionine
FS STEREOSEARCH
MF **C15 H22 N6 O5 S**
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER

(*File contains numerically searchable property data)

Absolute stereochemistry.

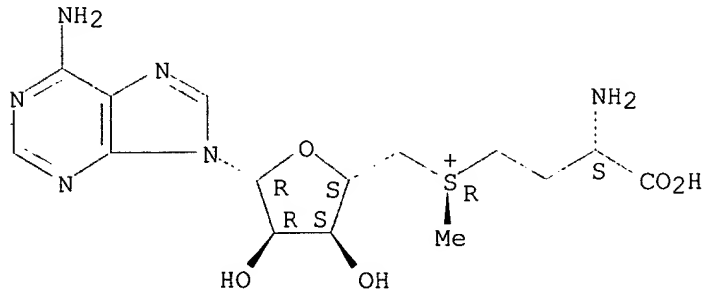


1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 93:197571

L29 ANSWER 6 OF 12 REGISTRY COPYRIGHT 2003 ACS
RN **60018-86-2** REGISTRY
CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, [R-(R*,S*)]-
FS STEREOSEARCH
MF C15 H23 N6 O5 S
CI COM
LC STN Files: BEILSTEIN*, CA, CAPLUS, CHEMINFORMRX, GMELIN*
(*File contains numerically searchable property data)

Absolute stereochemistry.



5 REFERENCES IN FILE CA (1962 TO DATE)
5 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 135:368482

REFERENCE 2: 134:300801

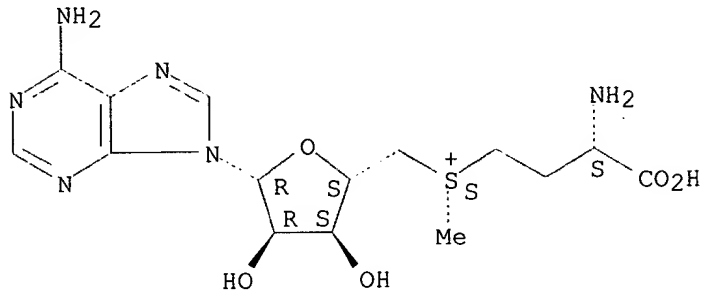
REFERENCE 3: 122:248491

REFERENCE 4: 97:2764

REFERENCE 5: 85:87099

L29 ANSWER 7 OF 12 REGISTRY COPYRIGHT 2003 ACS
RN **60018-85-1** REGISTRY
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, [S-(R*,R*)]-
FS STEREOSEARCH
DR 361436-45-5
MF C15 H23 N6 O5 S
CI COM
LC STN Files: BEILSTEIN*, CA, CAPLUS, CHEMINFORMRX, GMELIN*
(*File contains numerically searchable property data)

Absolute stereochemistry.



7 REFERENCES IN FILE CA (1962 TO DATE)
7 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 135:368482

REFERENCE 2: 135:253591

REFERENCE 3: 134:300801

REFERENCE 4: 122:248491

REFERENCE 5: 122:133648

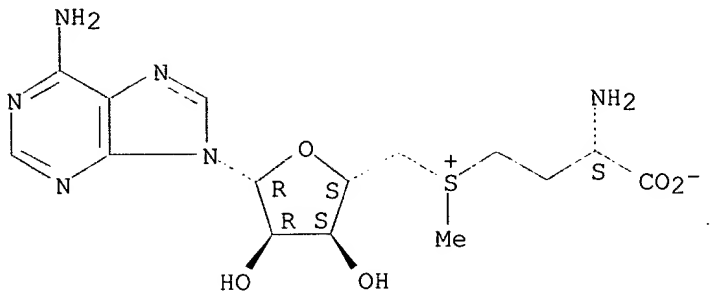
REFERENCE 6: 99:35027

REFERENCE 7: 85:87099

L29 ANSWER 8 OF 12 REGISTRY COPYRIGHT 2003 ACS
RN **29908-03-0** REGISTRY
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, inner salt (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, hydroxide, inner salt, (3S)-
CN Adenosine, 5'-[(L-3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, hydroxide, inner salt (8CI)
CN Methionine, S-adenosyl- (6CI)
OTHER NAMES:
CN Active methionine
CN Ademetionine
CN AdoMet
CN Donamet
CN L-Methionine, S-adenosyl-
CN L-S-Adenosylmethionine

CN S Amet
CN S-Adenosyl-L-methionine
CN SAMe
FS STEREOSEARCH
DR 23095-97-8, 2613-02-7, 86522-35-2, 86866-89-9, 5134-37-2, 28378-99-6
MF C15 H22 N6 O5 S
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMLIST, CIN, CSCHEM, DDFU, DRUGU, DRUGUPDATES, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PIRA, PROMT, RTECS*, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



3047 REFERENCES IN FILE CA (1962 TO DATE)
81 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3051 REFERENCES IN FILE CAPLUS (1962 TO DATE)
51 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:166421

REFERENCE 2: 138:165643

REFERENCE 3: 138:165600

REFERENCE 4: 138:165546

REFERENCE 5: 138:163579

REFERENCE 6: 138:148729

REFERENCE 7: 138:136806

REFERENCE 8: 138:118668

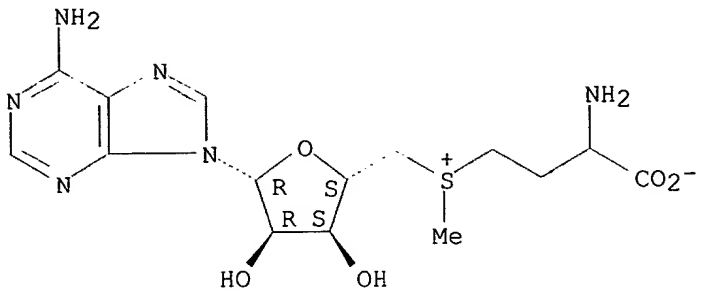
REFERENCE 9: 138:106077

REFERENCE 10: 138:105661

L29 ANSWER 9 OF 12 REGISTRY COPYRIGHT 2003 ACS
RN 17176-17-9 REGISTRY
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, inner salt (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Methionine, S-adenosyl-, DL- (8CI)
FS STEREOSEARCH

MF **C15 H22 N6 O5 S**
CI COM
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, DDFU, DRUGU, USAN
(*File contains numerically searchable property data)

Absolute stereochemistry.



4 REFERENCES IN FILE CA (1962 TO DATE)
4 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 134:247247

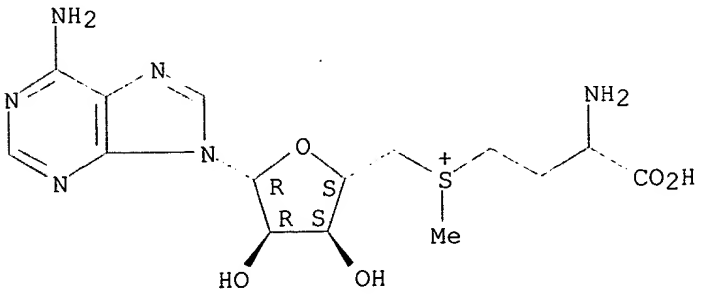
REFERENCE 2: 115:15600

REFERENCE 3: 85:188291

REFERENCE 4: 66:91721

L29 ANSWER 10 OF 12 REGISTRY COPYRIGHT 2003 ACS
RN 15519-60-5 REGISTRY
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, DL- (8CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C15 H23 N6 O5 S**
CI COM
LC STN Files: BEILSTEIN*, CHEMINFORMRX, GMELIN*
(*File contains numerically searchable property data)

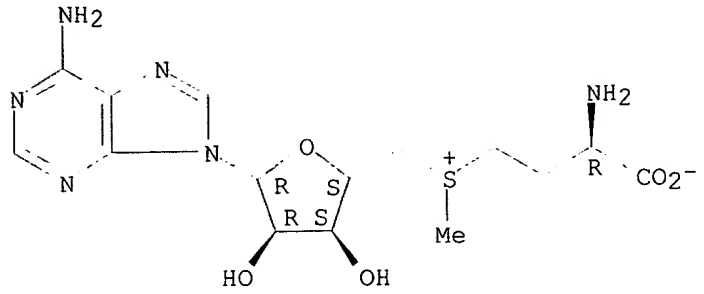
Absolute stereochemistry.



L29 ANSWER 11 OF 12 REGISTRY COPYRIGHT 2003 ACS
RN 14031-35-7 REGISTRY
CN Adenosine, 5'-[[(3R)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, inner salt (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, inner

salt, (3R)-
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, hydroxide, inner salt, (3R)- (8CI)
OTHER NAMES:
CN (.+-.)-S-Adenosyl-D-methionine
CN S-Adenosyl-D-methionine
FS STEREOSEARCH
MF **C15 H22 N6 O5 S**
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)

Absolute stereochemistry.



12 REFERENCES IN FILE CA (1962 TO DATE)
12 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 106:210255

REFERENCE 2: 105:148681

REFERENCE 3: 101:68349

REFERENCE 4: 99:135998

REFERENCE 5: 93:145298

REFERENCE 6: 93:128542

REFERENCE 7: 88:166505

REFERENCE 8: 88:165925

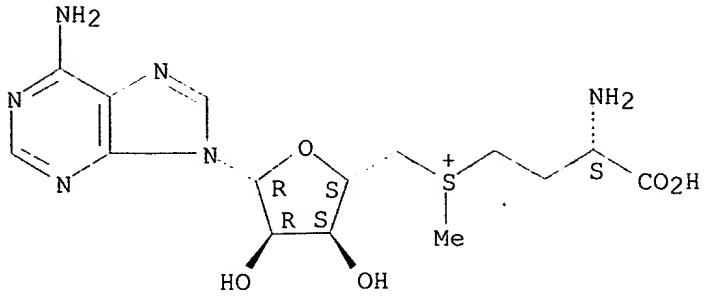
REFERENCE 9: 88:100769

REFERENCE 10: 85:188291

L29 ANSWER 12 OF 12 REGISTRY COPYRIGHT 2003 ACS
RN **485-80-3** REGISTRY
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, L- (8CI)
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, (3S)-
FS STEREOSEARCH
DR 55722-10-6, 15648-75-6, 93240-48-3
MF C15 H23 N6 O5 S
CI COM
LC STN Files: BEILSTEIN*, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CHEMINFORMRX, EMBASE, GMELIN*, TOXCENTER, USPAT2, USPATFULL

(*File contains numerically searchable property data)
Other Sources: WHO

Absolute stereochemistry.



32 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
32 REFERENCES IN FILE CAPLUS (1962 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 133:271676

REFERENCE 2: 119:222444

REFERENCE 3: 112:72420

REFERENCE 4: 110:185350

REFERENCE 5: 110:20247

REFERENCE 6: 109:51533

REFERENCE 7: 105:96382

REFERENCE 8: 104:221203

REFERENCE 9: 104:127186

REFERENCE 10: 103:193801

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 14:09:19 ON 22 MAR 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 22 Mar 2003 VOL 138 ISS 13
FILE LAST UPDATED: 21 Mar 2003 (20030321/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l45 all hitstr

L45 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:158385 HCAPLUS
DN 136:205441
TI Enantiomers of S-adenosyl-L-methionine
IN **Hebert, Rolland F.**
PA USA
SO U.S. Pat. Appl. Publ., 7 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM A61K038-13
ICS A61K031-7076; A61K031-525
NCL 514009000
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 1
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002025926	A1	20020228	US 2001-943243	20010830
PRAI US 2000-229151P	P	20000830		

AB Enantiomers of S-adenosyl-l-methionine, their stable salts and their uses are described. These compns. possess potent activity in treating various conditions involving hypomethylation and transulfuration reactions and are valuable for use as active constituents in pharmaceutical compns. For example, (S,S)-S-adenosylmethionine was prepd. and stabilized using p-toluene sulfonate. (S,S)-S-adenosylmethionine enteric-coated tablets (400 mg) were administered twice daily for 14 days or until remission of depression symptoms in an open, non-blind study to 10 volunteers (one patient declined to continue the study after beginning). All patients had normal results on pre-study medical examns., including lab. examns. Eight of the nine patients who completed the trial improved over the 14 days, while one patient had no change at all. No side effects were noted or reported by any of the patients nor as measured by lab. or phys. examn. (S, S)-S-adenosylmethionine 400 mg twice daily appeared to be safe and effective in this small, non-blinded study of depression.
ST adenosylmethionine enantiomer salt oral parenteral topical therapeutic
IT Hepatitis
(B; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)
IT Hepatitis
(C; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)
IT Skin, disease
(aging; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)
IT Drug withdrawal
Liver, disease
(alc.; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)
IT Mental disorder
(attention deficit disorder; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)
IT Mental disorder
(attention deficit hyperactivity disorder; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)
IT Contraceptives

Pregnancy
(bile dysfunction caused by; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Biliary tract
(cholestasis, intrahepatic; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Liver, disease
(chronic; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Antipsychotics
(combination with; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Aging, animal
Analgesics
Anti-AIDS agents
Anti-Alzheimer's agents
Anti-inflammatory agents
Anti-ischemic agents
Antiarthritics
Antiasthmatics
Antidepressants
Antimigraine agents
Antiparkinsonian agents
Antirheumatic agents
Antitumor agents
Antiviral agents
Anxiolytics
Cirrhosis
Cognition enhancers
Dermatitis
Human immunodeficiency virus 1
Liver, disease
Multiple sclerosis
Organ preservation
Seborrhea
Stabilizing agents
(compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Mitochondria
(diseases; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Sleep
(disorder; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Memory, biological
(disturbances; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Bile
(dysfunction; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Lipids, biological studies
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(dyslipidemia; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Sebum
(excess prodn. of; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT DNA
RNA
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(hypomethylation; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Reperfusion

(injury, ischemic; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Drug delivery systems
(nasal; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Antioxidants
(natural, increase of low level of; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Drug delivery systems
(oral; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Pancreas, disease
(pancreatitis; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Nutrition, animal
(parenteral, liver disease induced by; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Drug delivery systems
(parenterals; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Artery, disease
(peripheral, occlusion; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Drug delivery systems
(rectal; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Brain, disease
(stroke; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Tumor necrosis factors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(suppression of increased level of; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Drug delivery systems
(tablets, enteric-coated; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Drug delivery systems
(topical; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT Drug delivery systems
(transdermal; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT 59-92-7, Levodopa, biological studies 59865-13-3, Cyclosporin A
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(coadministration with; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT 546-89-4, Lithium acetate 553-54-8, Lithium benzoate 554-13-2, Lithium carbonate 556-63-8, Lithium formate 919-16-4, Lithium citrate 7439-93-2D, Lithium, salts 7447-41-8, Lithium chloride, biological studies 7487-88-9, Magnesium sulfate, biological studies 7550-35-8, Lithium bromide 7705-08-0, Ferric chloride, biological studies 7786-30-3, Magnesium chloride, biological studies 7790-69-4, Lithium nitrate 10043-52-4, Calcium chloride, biological studies 10377-48-7, Lithium sulfate 10377-51-2, Lithium iodide 10377-52-3, Lithium phosphate 12676-27-6 16090-09-8, Lithium succinate
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(combination with; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT **24346-00-7 28594-13-0 29908-03-0,**
S-Adenosyl-L-methionine **52248-03-0 60684-72-2,**
biological studies **60684-73-3,** biological studies
78548-84-2 79297-25-9 79297-26-0
79297-27-1 79297-28-2 79297-29-3

79297-30-6 91279-78-6 93240-49-4
111136-92-6 111136-93-7 147810-47-7,
biological studies 401497-99-2 401498-00-8
401498-01-9 401498-02-0 401498-03-1
401498-05-3 401498-07-5 401498-09-7
401498-11-1 401498-13-3 401498-15-5
401498-17-7 401498-19-9 401498-22-4
401498-24-6 401498-26-8 401498-28-0
401498-29-1 401498-31-5 401498-32-6
401498-33-7 401498-34-8 401498-43-9
401498-45-1 401498-50-8 401498-51-9
401498-52-0 401498-54-2 401498-56-4
401498-58-6 401498-60-0 401498-61-1
401498-62-2 401498-63-3 401498-64-4
401498-67-7 401498-67-7 401498-68-8
401498-68-8 401498-71-3 401498-72-4
401498-79-1
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT 50-78-2, Aspirin 59-05-2, Methotrexate 59-30-3, Folic acid, biological studies 12001-76-2, Vitamin B 15687-27-1, Ibuprofen
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT 70-18-8, L-Glutathione, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(increase of low levels of; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

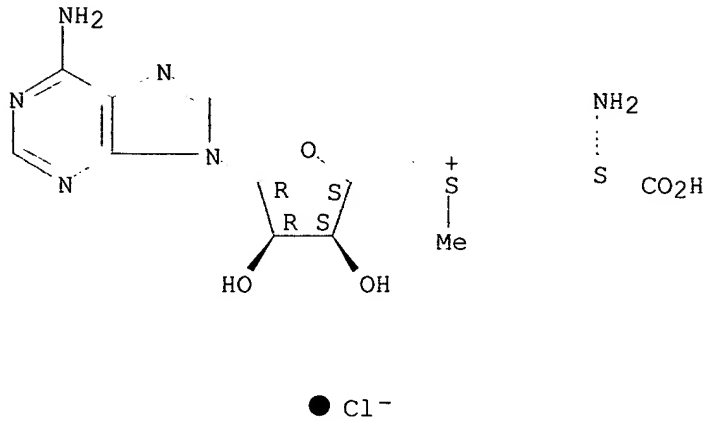
IT 104-15-4, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(stabilizer; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT 64-17-5, Ethanol, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(withdrawal; compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

IT 24346-00-7 28594-13-0 29908-03-0,
S-Adenosyl-L-methionine 52248-03-0 60684-72-2,
biological studies 60684-73-3, biological studies
78548-84-2 79297-25-9 79297-26-0
79297-27-1 79297-28-2 79297-29-3
79297-30-6 91279-78-6 93240-49-4
111136-92-6 111136-93-7 147810-47-7,
biological studies 401497-99-2 401498-00-8
401498-01-9 401498-02-0 401498-03-1
401498-05-3 401498-07-5 401498-09-7
401498-11-1 401498-13-3 401498-15-5
401498-17-7 401498-19-9 401498-22-4
401498-24-6 401498-26-8 401498-28-0
401498-29-1 401498-31-5 401498-32-6
401498-33-7 401498-34-8 401498-43-9
401498-45-1 401498-50-8 401498-51-9
401498-52-0 401498-54-2 401498-56-4
401498-58-6 401498-60-0 401498-61-1
401498-62-2 401498-63-3 401498-64-4
401498-67-7 401498-68-8 401498-71-3
401498-72-4 401498-79-1
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. contg. enantiomers of S-adenosyl-L-methionine and their salts for therapy)

RN 24346-00-7 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, chloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.

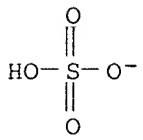


● Cl^-

RN 28594-13-0 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, sulfate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

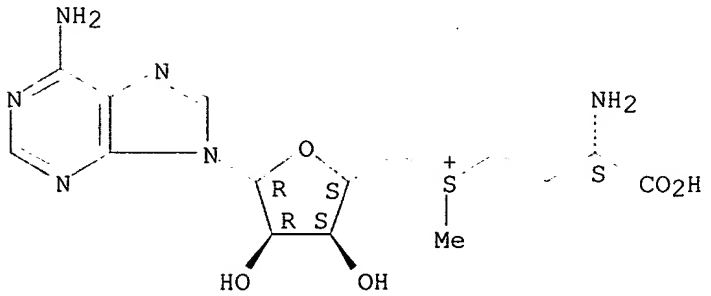
CRN 14996-02-2
CMF H O4 S



CM 2

CRN 485-80-3
CMF C15 H23 N6 O5 S

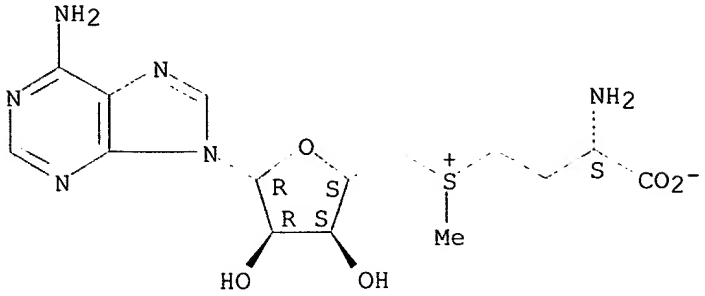
Absolute stereochemistry.



RN 29908-03-0 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-,

inner salt (9CI) (CA INDEX NAME)

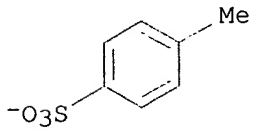
Absolute stereochemistry.



RN 52248-03-0 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

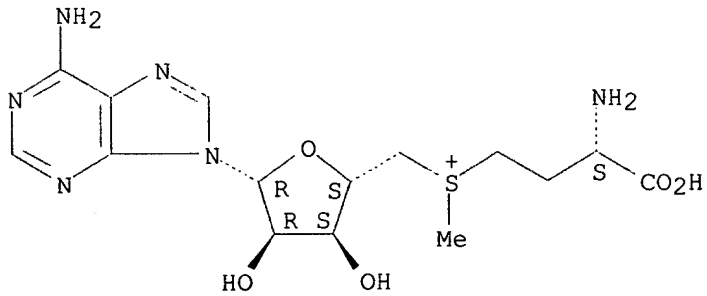
CRN 16722-51-3
CMF C7 H7 O3 S



CM 2

CRN 485-80-3
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



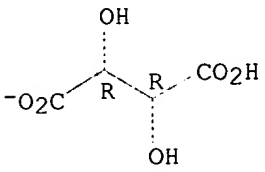
RN 60684-72-2 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with (2R,3R)-2,3-dihydroxybutanedioic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 49681-69-8

CMF C4 H5 O6

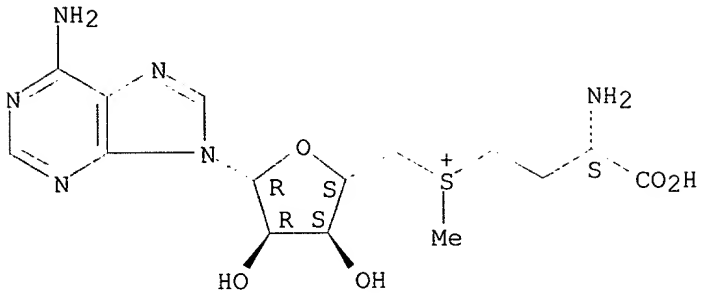
Absolute stereochemistry.



CM 2

CRN 485-80-3
CMF C15 H23 N6 O5 S

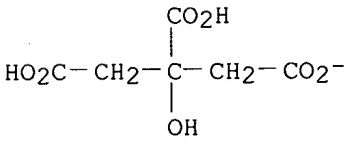
Absolute stereochemistry.



RN 60684-73-3 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 2-hydroxy-1,2,3-propanetricarboxylic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

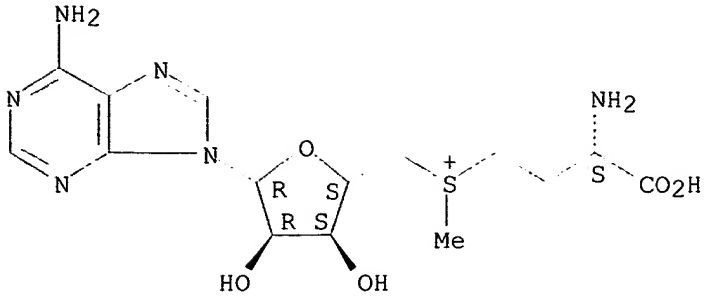
CRN 55465-68-4
CMF C6 H7 O7



CM 2

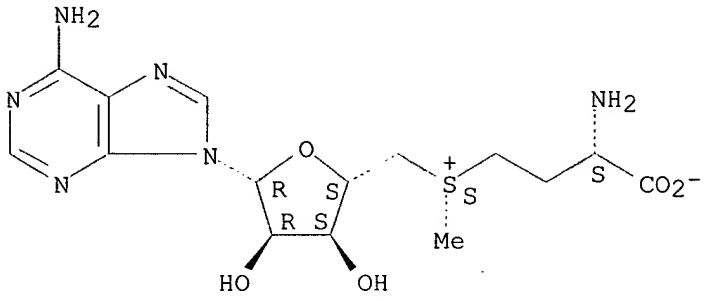
CRN 485-80-3
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



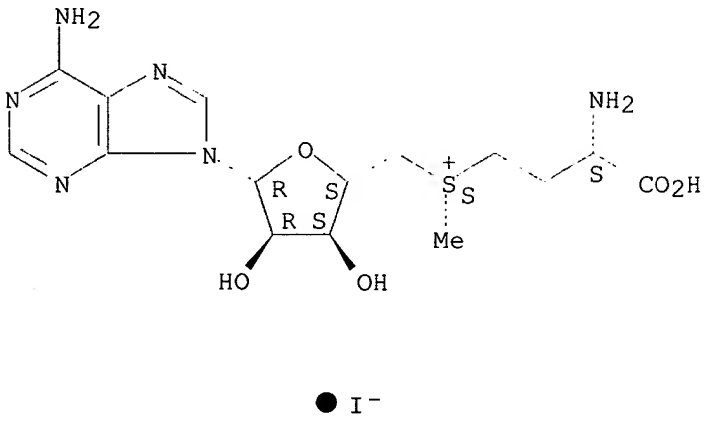
RN 78548-84-2 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, inner salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.



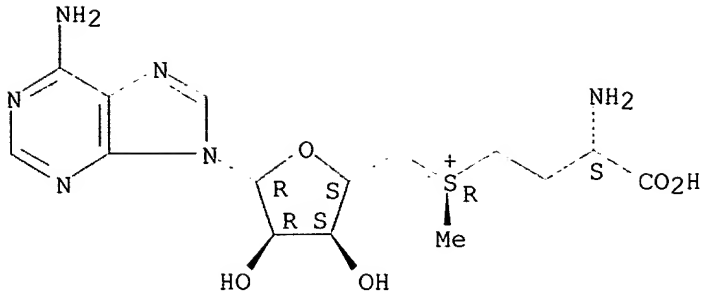
RN 79297-25-9 HCAPLUS
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, iodide, [S-(R*,R*)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 79297-26-0 HCAPLUS
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, iodide, [R-(R*,S*)]- (9CI) (CA INDEX NAME)

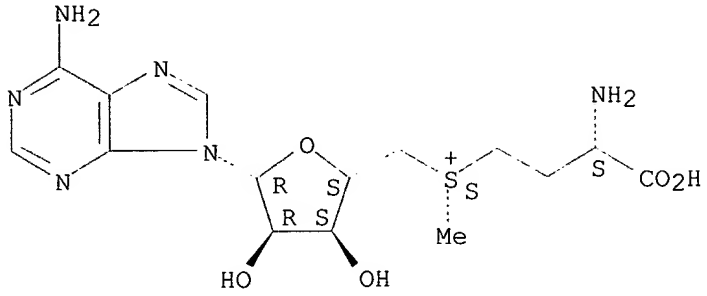
Absolute stereochemistry.



● I^-

RN 79297-27-1 HCAPLUS
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, chloride, [S-(R*,R*)]- (9CI) (CA INDEX NAME)

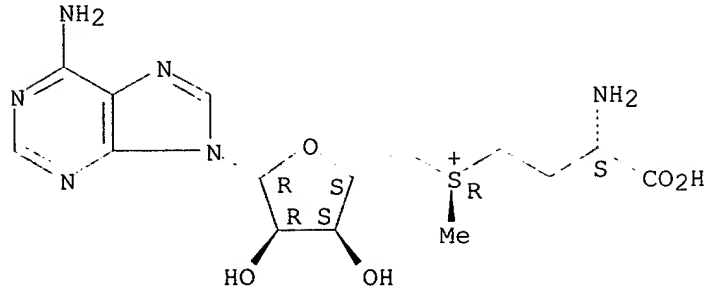
Absolute stereochemistry.



● Cl^-

RN 79297-28-2 HCAPLUS
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, chloride, [R-(R*,S*)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



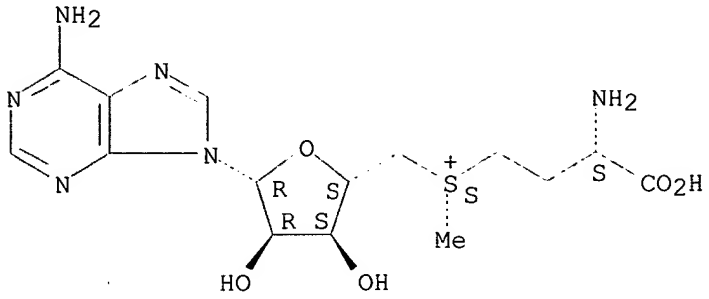
Cl^-

RN 79297-29-3 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, sulfate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

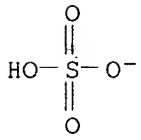
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 14996-02-2
CMF H O4 S

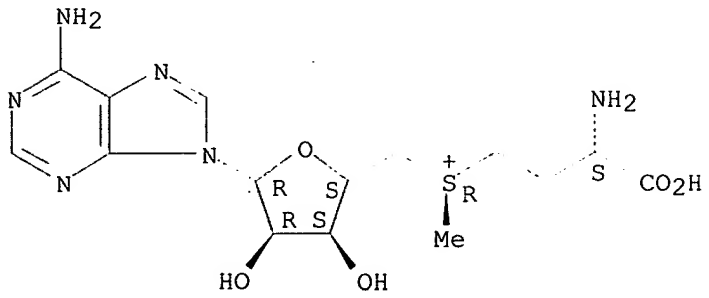


RN 79297-30-6 HCAPLUS
CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, sulfate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

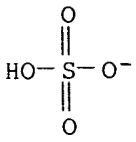
CRN 60018-86-2
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



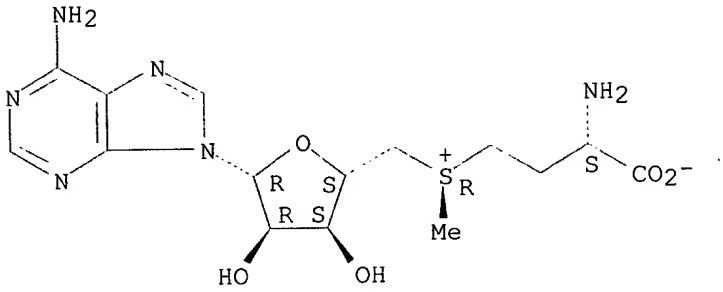
CM 2

CRN 14996-02-2
CMF H O4 S



RN 91279-78-6 HCAPLUS
CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, inner salt (9CI) (CA INDEX NAME)

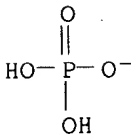
Absolute stereochemistry.



RN 93240-49-4 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, phosphate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

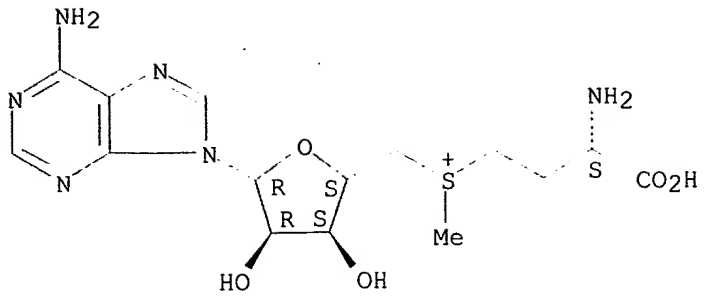
CRN 14066-20-7
CMF H2 O4 P



CM 2

CRN 485-80-3
CMF C15 H23 N6 O5 S

Absolute stereochemistry.

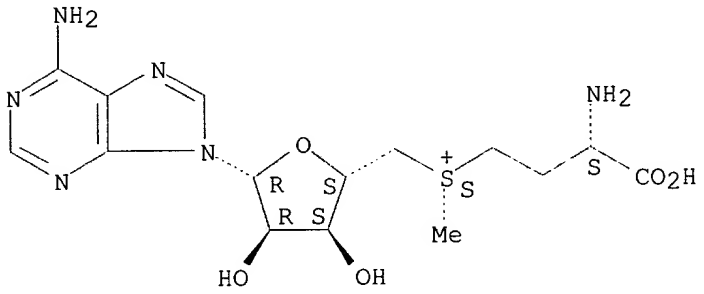


RN 111136-92-6 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

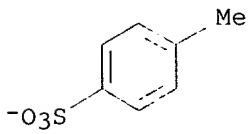
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 16722-51-3
CMF C7 H7 O3 S

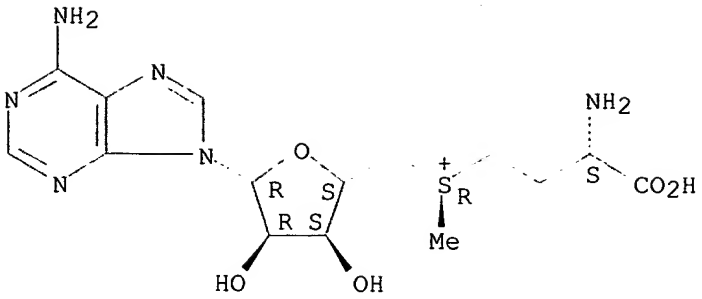


RN 111136-93-7 HCAPLUS
CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

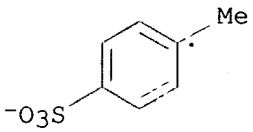
CRN 60018-86-2
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 16722-51-3
CMF C7 H7 O3 S

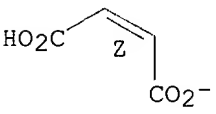


RN 147810-47-7 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, (2Z)-2-butenedioate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 18610-42-9
CMF C4 H3 O4

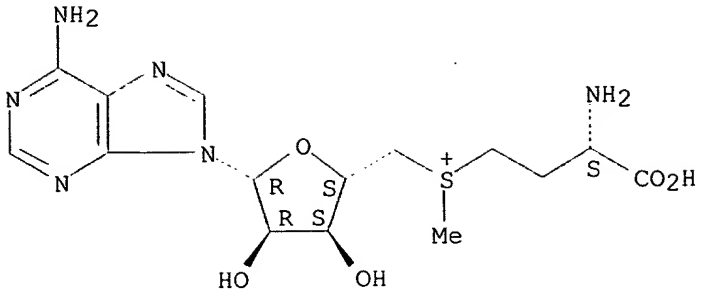
Double bond geometry as shown.



CM 2

CRN 485-80-3
CMF C15 H23 N6 O5 S

Absolute stereochemistry.

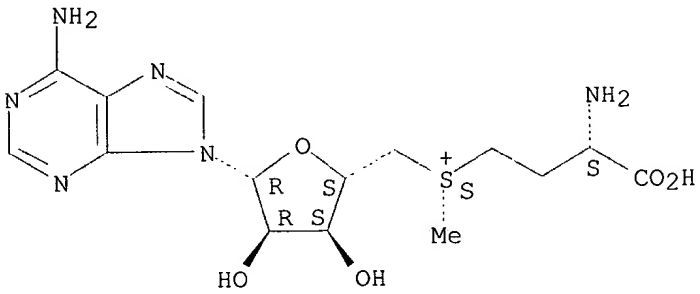


RN 401497-99-2 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, methanesulfonate (salt) (9CI) (CA INDEX NAME)

CM 1

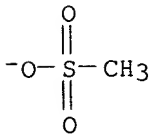
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 16053-58-0
CMF C H3 O3 S

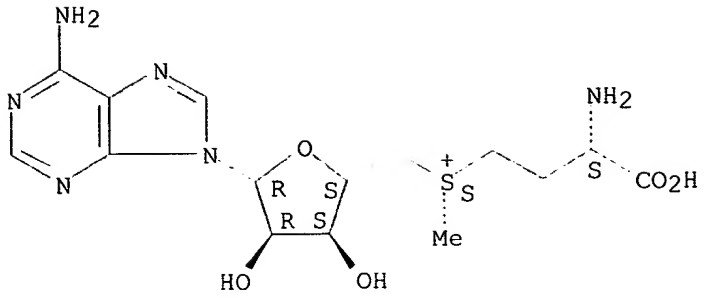


RN 401498-00-8 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, ethanesulfonate (salt) (9CI) (CA INDEX NAME)

CM 1

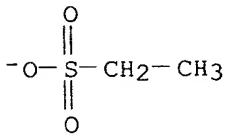
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 10047-83-3
CMF C2 H5 O3 S

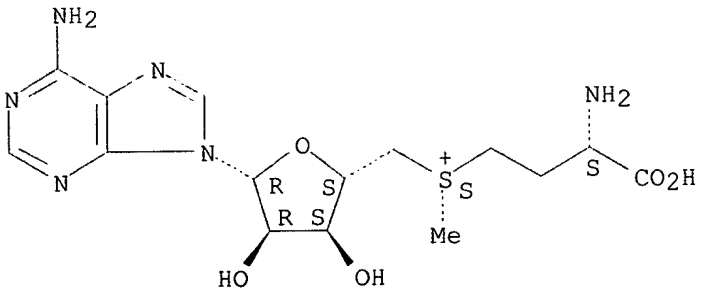


RN 401498-01-9 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, 1-dodecanesulfonate (salt) (9CI) (CA INDEX NAME)

CM 1

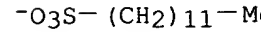
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 38480-64-7
CMF C12 H25 O3 S



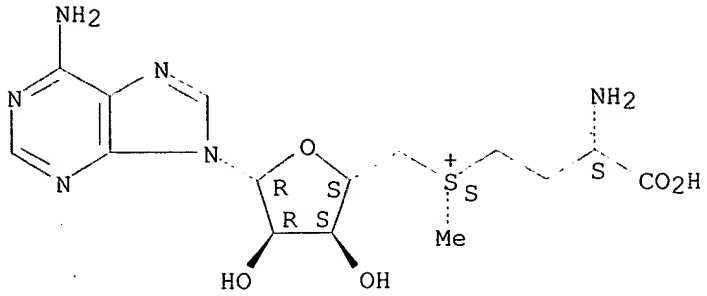
RN 401498-02-0 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-

, 1-octadecanesulfonate (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 45268-75-5
CMF C18 H37 O3 S

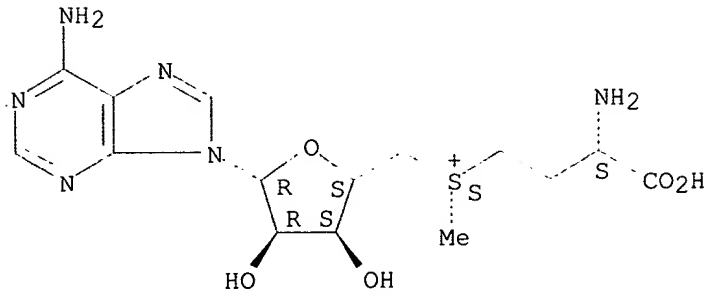
$^{-}O_3S-(CH_2)_{17}-Me$

RN 401498-03-1 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 2-chloroethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 44582-79-8
CMF C2 H4 Cl O3 S

$ClCH_2-CH_2-SO_3^-$

RN 401498-05-3 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 2-bromoethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

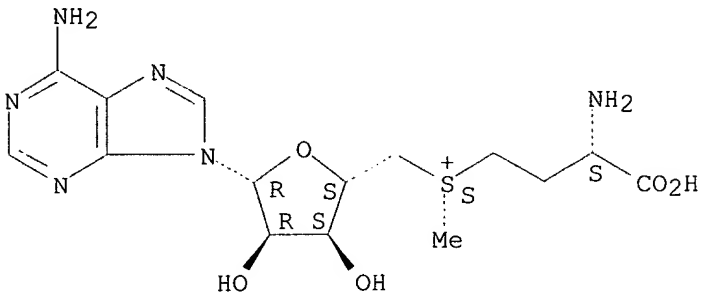
CRN 85182-91-8
CMF C2 H4 Br O3 S

$BrCH_2-CH_2-SO_3^-$

CM 2

CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.

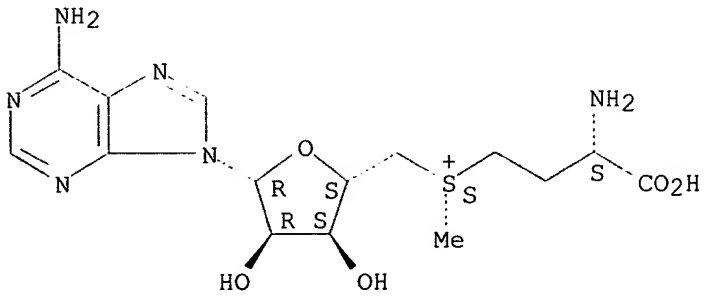


RN 401498-07-5 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 2-hydroxyethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 21561-88-6
CMF C2 H5 O4 S

$HO-CH_2-CH_2-SO_3^-$

RN 401498-09-7 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 3-hydroxy-1-propanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

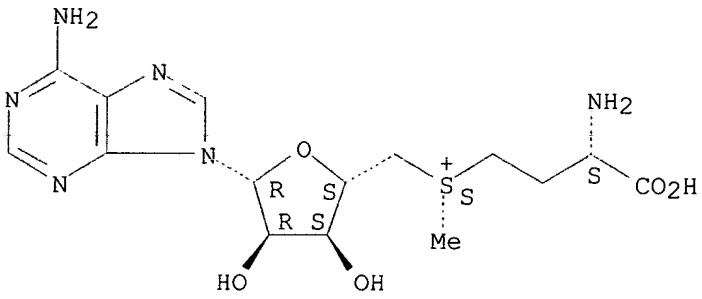
CRN 80314-02-9
CMF C3 H7 O4 S

$HO-(CH_2)_3-SO_3^-$

CM 2

CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.

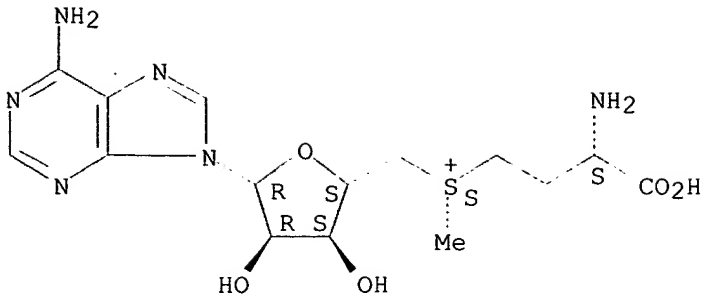


RN 401498-11-1 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 7,7-dimethyl-2-oxobicyclo[2.2.1]heptane-1-methanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

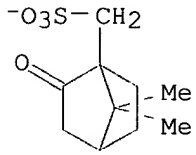
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 55077-28-6
CMF C10 H15 O4 S

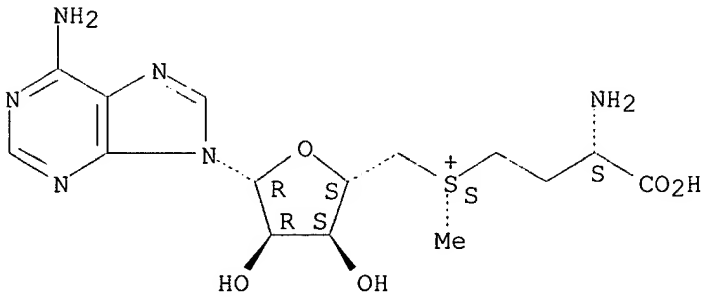


RN 401498-13-3 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 3-bromo-7,7-dimethyl-2-oxobicyclo[2.2.1]heptane-1-methanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

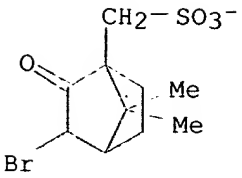
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

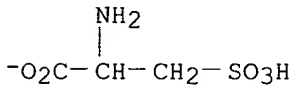
CRN 46471-48-1
CMF C10 H14 Br O4 S



RN 401498-15-5 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 3-sulfoalanine (1:1) (9CI) (CA INDEX NAME)

CM 1

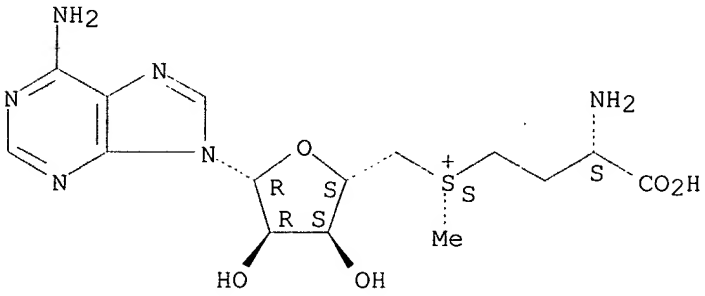
CRN 147625-34-1
CMF C3 H6 N O5 S



CM 2

CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.

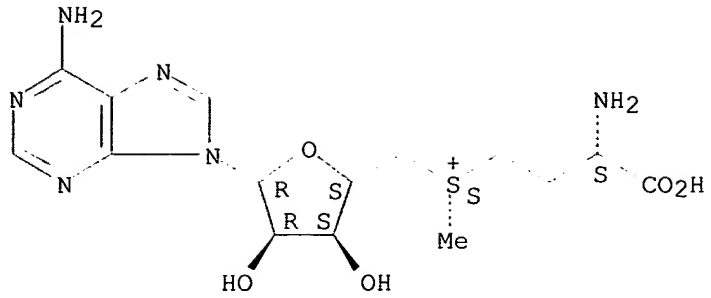


RN 401498-17-7 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, benzenesulfonate (salt) (9CI) (CA INDEX NAME)

CM 1

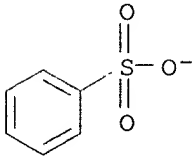
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 3198-32-1
CMF C6 H5 O3 S

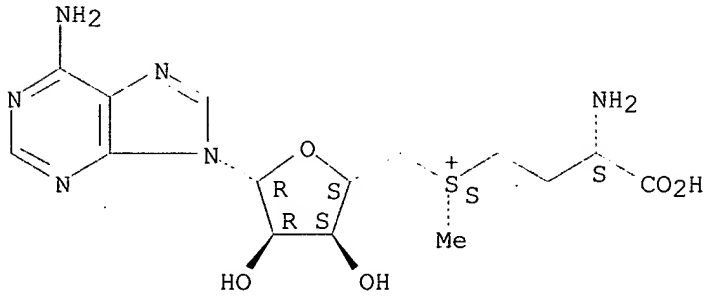


RN 401498-19-9 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 4-chlorobenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

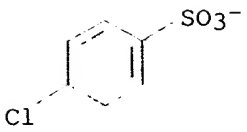
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

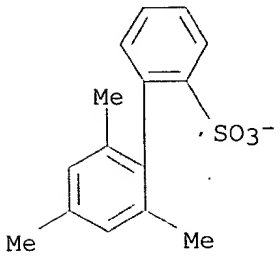
CRN 45934-90-5
CMF C6 H4 Cl O3 S



RN 401498-22-4 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 2',4',6'-trimethyl[1,1'-biphenyl]-2-sulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

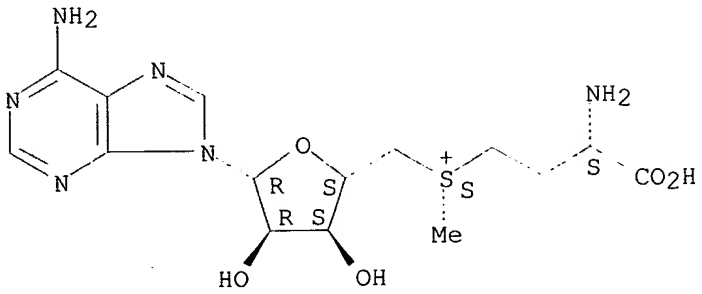
CRN 401498-21-3
CMF C15 H15 O3 S



CM 2

CRN 60018-85-1
CMF C15 H23 N6 O5 S

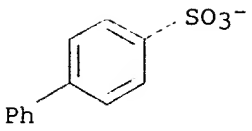
Absolute stereochemistry.



RN 401498-24-6 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, [1,1'-biphenyl]-4-sulfonate (salt) (9CI) (CA INDEX NAME)

CM 1

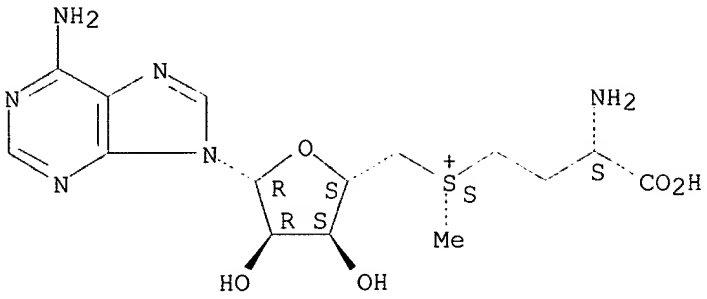
CRN 103534-32-3
CMF C12 H9 O3 S



CM 2

CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.

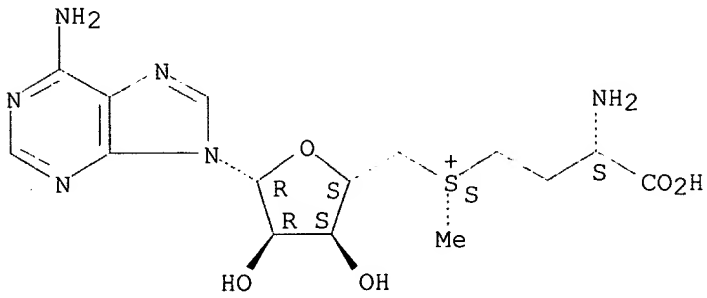


RN 401498-26-8 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, 1-naphthalenesulfonate (salt) (9CI) (CA INDEX NAME)

CM 1

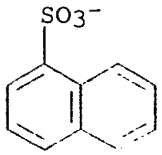
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 22873-93-4
CMF C10 H7 O3 S

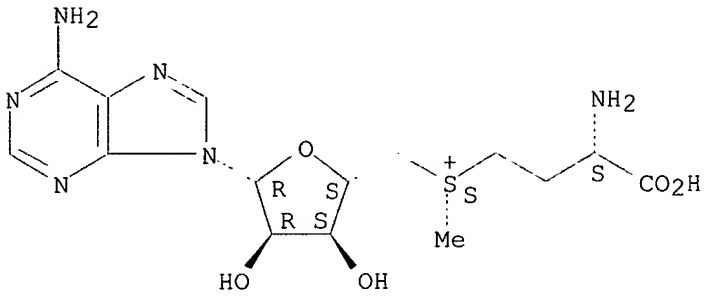


RN 401498-28-0 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, 2-naphthalenesulfonate (salt) (9CI) (CA INDEX NAME)

CM 1

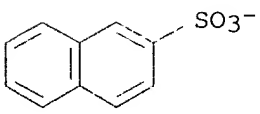
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 16023-36-2
CMF C10 H7 O3 S

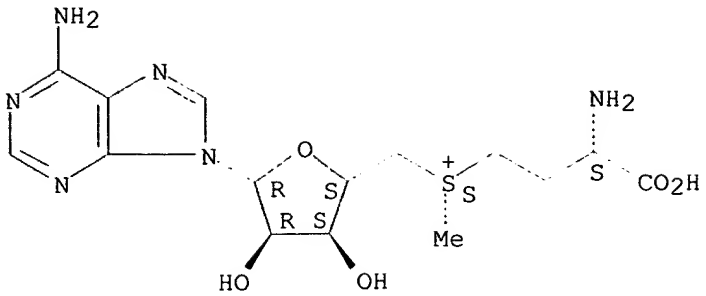


RN 401498-29-1 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 2-hydroxy-5-sulfobenzoic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

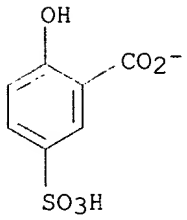
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

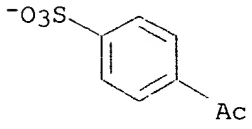
CRN 46326-08-3
CMF C7 H5 O6 S



RN 401498-31-5 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 4-acetylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

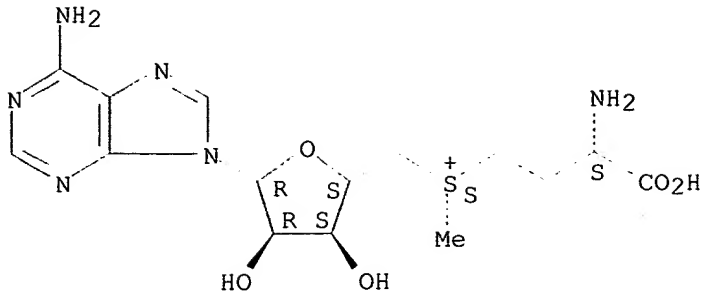
CRN 68865-01-0
CMF C8 H7 O4 S



CM 2

CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



RN 401498-32-6 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, 1,2-ethanedisulfonate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

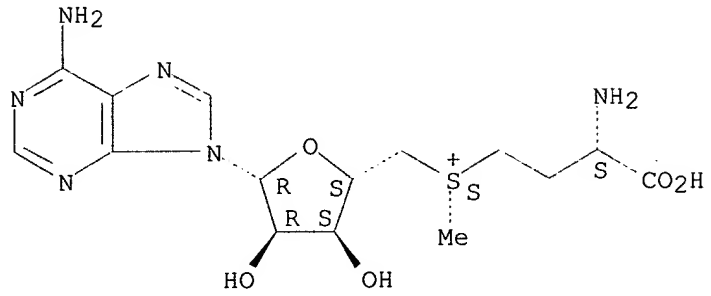
CRN 147679-24-1
CMF C2 H5 O6 S2

$HO_3S-CH_2-CH_2-SO_3^-$

CM 2

CRN 60018-85-1
CMF C15 H23 N6 O5 S

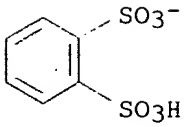
Absolute stereochemistry.



RN 401498-33-7 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, 1,2-benzenedisulfonate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

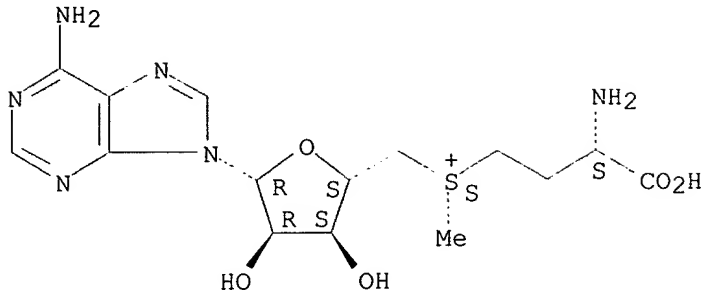
CRN 147732-55-6
CMF C6 H5 O6 S2



CM 2

CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.

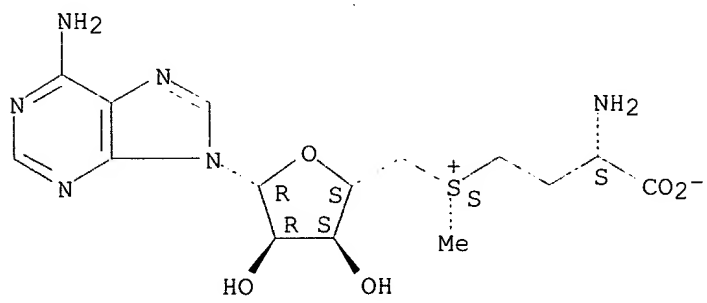


RN 401498-34-8 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, inner salt, compd. with chondroitin hydrogen sulfate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 78548-84-2
CMF C15 H22 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 9007-28-7
CMF H2 O4 S . x Unspecified

CM 3

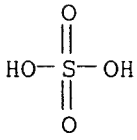
CRN 9007-27-6

CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 4

CRN 7664-93-9
CMF H2 O4 S

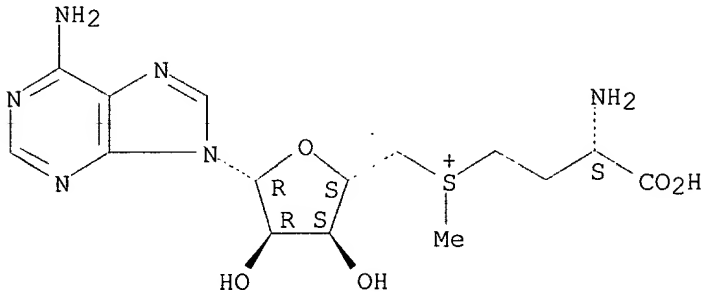


RN 401498-43-9 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, formate (salt) (9CI) (CA INDEX NAME)

CM 1

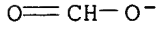
CRN 485-80-3
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 71-47-6
CMF C H O2

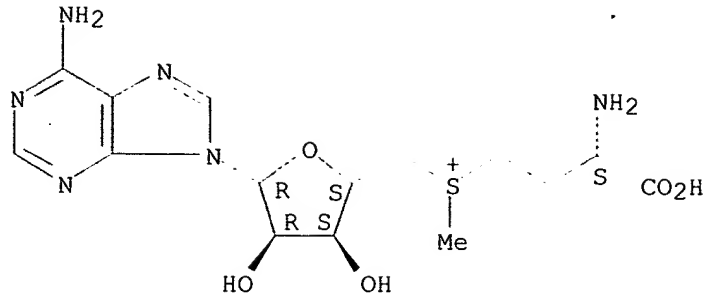


RN 401498-45-1 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, acetate (salt) (9CI) (CA INDEX NAME)

CM 1

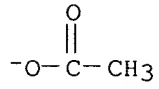
CRN 485-80-3
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

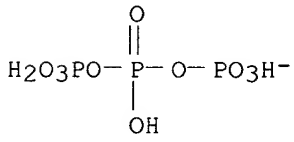
CRN 71-50-1
CMF C2 H3 O2



RN 401498-50-8 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, (triphosphate) (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

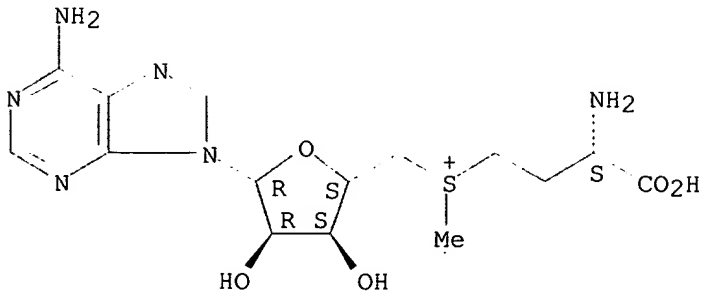
CRN 72437-95-7
CMF H4 O10 P3



CM 2

CRN 485-80-3
CMF C15 H23 N6 O5 S

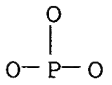
Absolute stereochemistry.



RN 401498-51-9 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with metaphosphoric acid (HPO3) (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 15389-19-2
CMF O3 P

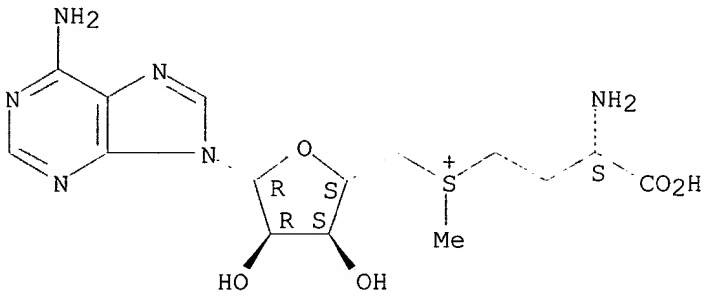


*** FRAGMENT DIAGRAM IS INCOMPLETE ***

CM 2

CRN 485-80-3
CMF C15 H23 N6 O5 S

Absolute stereochemistry.

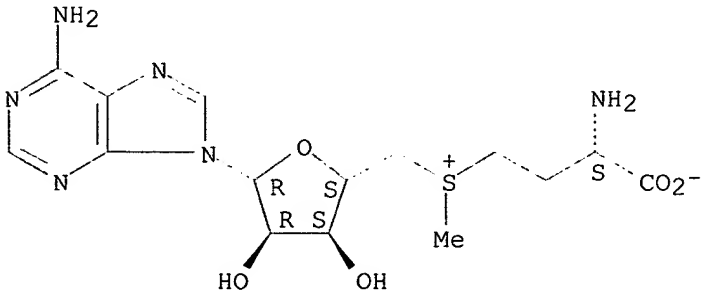


RN 401498-52-0 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, inner salt, compd. with 4-ethenylbenzenesulfonic acid homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 29908-03-0
CMF C15 H22 N6 O5 S

Absolute stereochemistry.

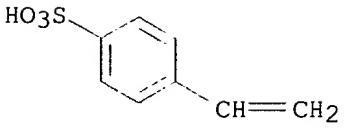


CM 2

CRN 28210-41-5
CMF (C8 H8 O3 S)x
CCI PMS

CM 3

CRN 98-70-4
CMF C8 H8 O3 S

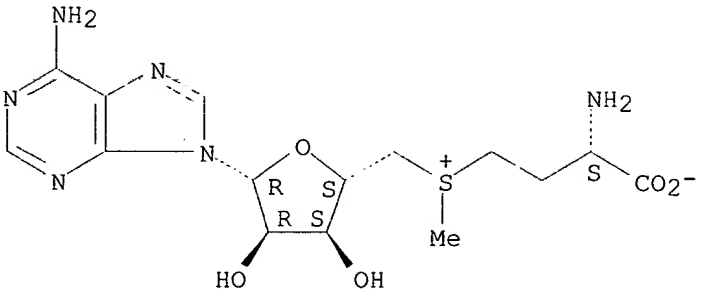


RN 401498-54-2 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, inner salt, compd. with ethenesulfonic acid homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 29908-03-0
CMF C15 H22 N6 O5 S

Absolute stereochemistry.

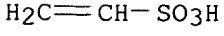


CM 2

CRN 26101-52-0
CMF (C2 H4 O3 S)x
CCI PMS

CM 3

CRN 1184-84-5
CMF C2 H4 O3 S



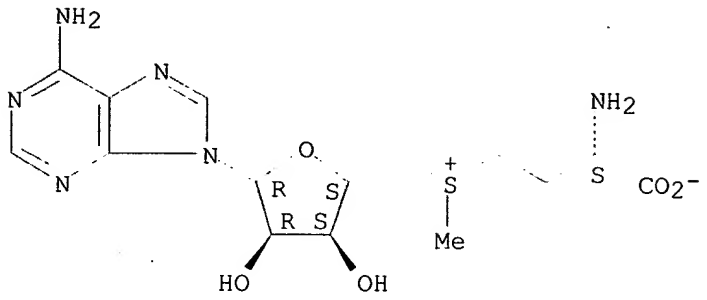
RN 401498-56-4 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, inner salt, compd. with ethenyl hydrogen sulfate homopolymer (9CI) (CA

INDEX NAME)

CM 1

CRN 29908-03-0
CMF C15 H22 N6 O5 S

Absolute stereochemistry.

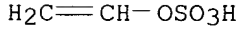


CM 2

CRN 25191-25-7
CMF (C2 H4 O4 S)x
CCI PMS

CM 3

CRN 13401-80-4
CMF C2 H4 O4 S

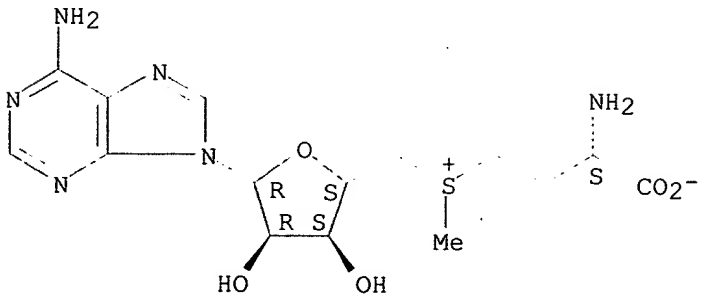


RN 401498-58-6 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, inner salt, compd. with ethenyl dihydrogen phosphate homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 29908-03-0
CMF C15 H22 N6 O5 S

Absolute stereochemistry.

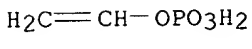


CM 2

CRN 29690-74-2
CMF (C2 H5 O4 P)x
CCI PMS

CM 3

CRN 36885-49-1
CMF C2 H5 O4 P

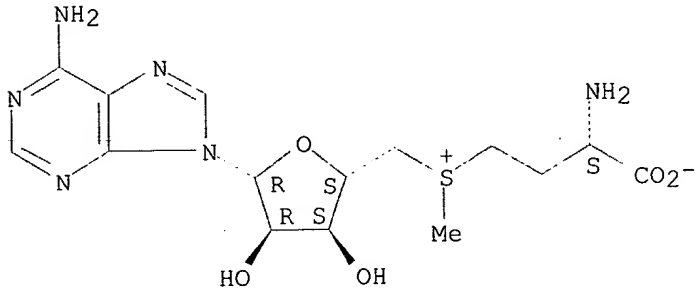


RN 401498-60-0 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, inner salt, compd. with 2-propenoic acid homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 29908-03-0
CMF C15 H22 N6 O5 S

Absolute stereochemistry.

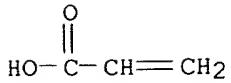


CM 2

CRN 9003-01-4
CMF (C3 H4 O2)x
CCI PMS

CM 3

CRN 79-10-7
CMF C3 H4 O2

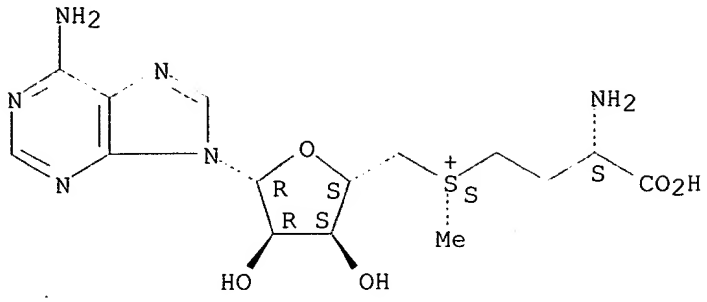


RN 401498-61-1 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, sulfite (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

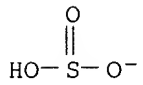
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 15181-46-1
CMF H O3 S

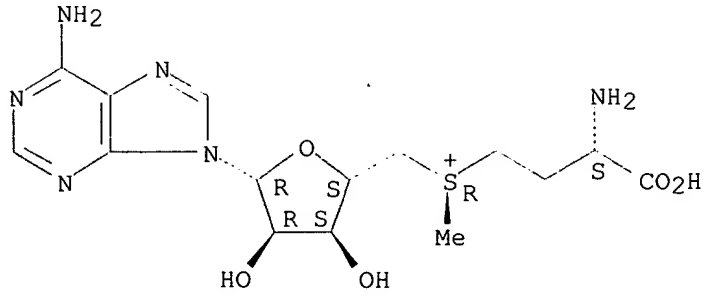


RN 401498-62-2 HCAPLUS
CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, sulfite (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

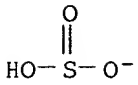
CRN 60018-86-2
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

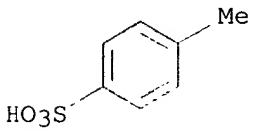
CRN 15181-46-1
CMF H O3 S



RN 401498-63-3 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 4-methylbenzenesulfonic acid (1:1), bis(4-methylbenzenesulfonate) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 104-15-4
CMF C7 H8 O3 S



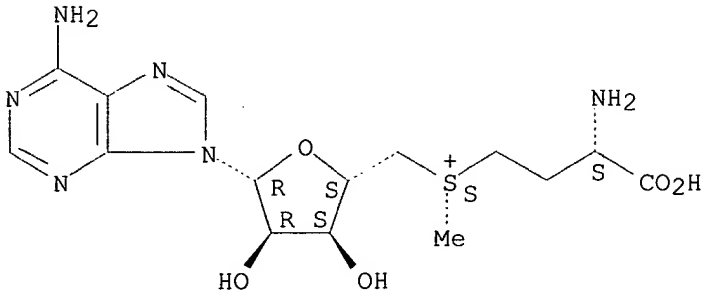
CM 2

CRN 111136-92-6
CMF C15 H23 N6 O5 S . C7 H7 O3 S

CM 3

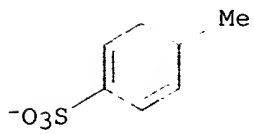
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 4

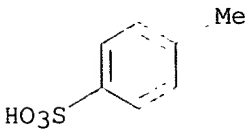
CRN 16722-51-3
CMF C7 H7 O3 S



RN 401498-64-4 HCAPLUS
CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 4-methylbenzenesulfonic acid (1:1), bis(4-methylbenzenesulfonate) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 104-15-4
CMF C7 H8 O3 S



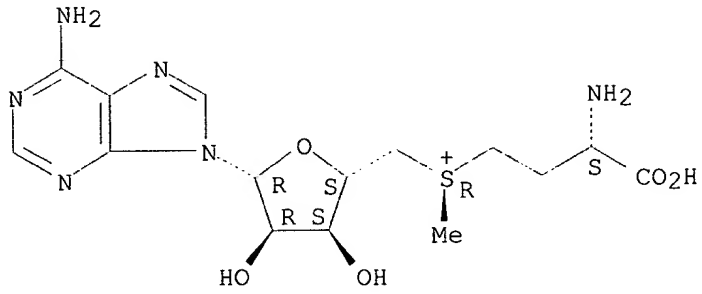
CM 2

CRN 111136-93-7
CMF C15 H23 N6 O5 S . C7 H7 O3 S

CM 3

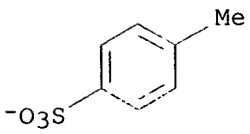
CRN 60018-86-2
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 4

CRN 16722-51-3
CMF C7 H7 O3 S

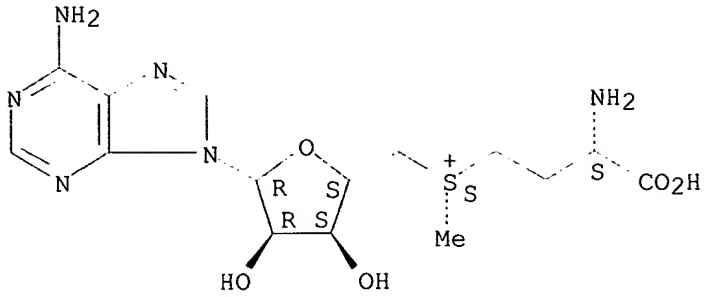


RN 401498-67-7 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, carbonate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

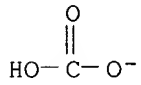
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 71-52-3
CMF C H O3

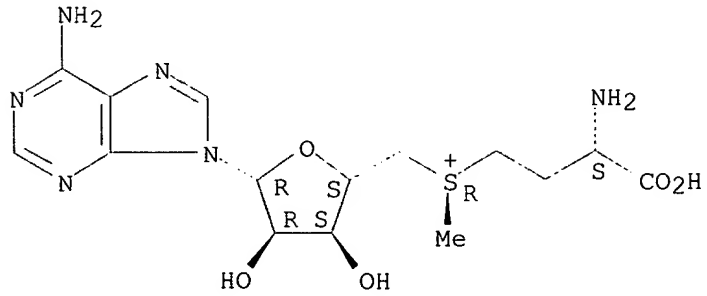


RN 401498-68-8 HCAPLUS
CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, carbonate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

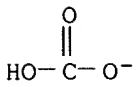
CRN 60018-86-2
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



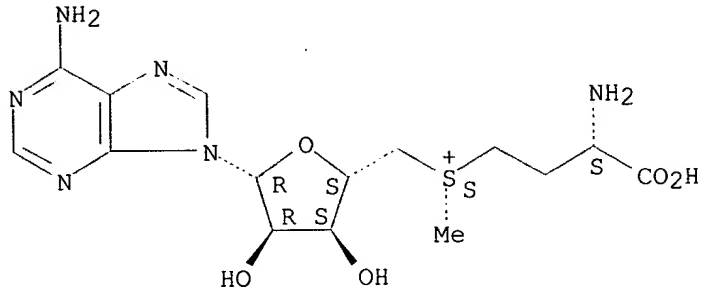
CM 2

CRN 71-52-3
CMF C H O3



RN 401498-71-3 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, bromide (9CI) (CA INDEX NAME)

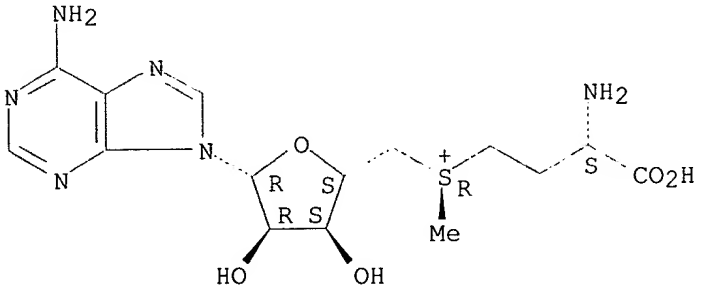
Absolute stereochemistry.



● Br^-

RN 401498-72-4 HCAPLUS
CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, bromide (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● Br^-

RN 401498-79-1 HCAPLUS
CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, 1,2-ethanedisulfonate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

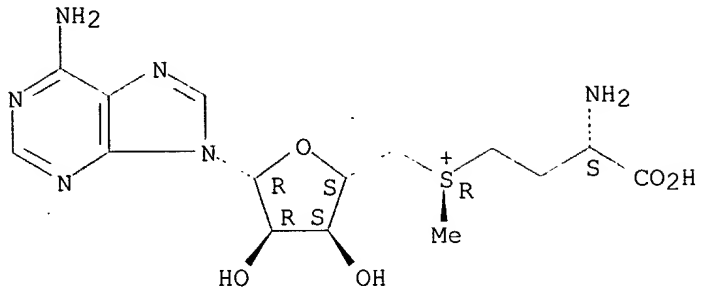
CRN 147679-24-1
CMF C2 H5 O6 S2

$HO_3S-CH_2-CH_2-SO_3^-$

CM 2

CRN 60018-86-2
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



=> d all hitstr tot

L61 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:868476 HCAPLUS
DN 136:5067
TI Process for the preparation of pharmaceutically acceptable salts of (SS-RS)-S-adenosyl-L-methionine
IN Berna, Marco; Sivieri, Lino; Santambrogio, Gianni; Valoti, Ermanno
PA Chementecno S.r.l., Italy
SO PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM C07H019-16
ICS C12P019-40; C07H001-08
CC 17-6 (Food and Feed Chemistry)
Section cross-reference(s): 18
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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	US 2002173012	A1	20021121	US 2002-142876	20020513 <--
PRAI	IT 2000-MI1158	A	20000525 <--		

WO 2001-EP3633 W 20010330
US 2001-829906 A3 20010411

AB The present invention relates to a process for the prepn. of pharmaceutically acceptable salts of (SS,RS)-S-adenosyl-L-methionine and allows one to obtain the salified (RS)-(+)-S-adenosyl-L-methionine diastereoisomer in amts. .ltoreq.3% with respect to the salified (SS)-(+)-S-adenosyl-L-methionine diastereoisomer; the salts that can be obtained by the process of the invention keep their configuration stable in time.

ST adenosyl methionine salt diastereomer prepn

IT Filtration
(microfiltration; process for the prepn. of pharmaceutically acceptable salts of (SS-RS)-S-adenosyl-L-methionine)

IT Decolorization
Freeze drying
Reverse osmosis
Saccharomyces pastorianus
Yeast
(process for the prepn. of pharmaceutically acceptable salts of (SS-RS)-S-adenosyl-L-methionine)

IT **375798-66-6P**
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(process for the prepn. of pharmaceutically acceptable salts of (SS-RS)-S-adenosyl-L-methionine)

IT 29908-03-0P **78548-84-2P**
RL: BPN (Biosynthetic preparation); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)
(process for the prepn. of pharmaceutically acceptable salts of (SS-RS)-S-adenosyl-L-methionine)

IT 104-15-4, p-Toluenesulfonic acid, uses 7664-93-9, Sulfuric acid, uses
RL: MOA (Modifier or additive use); USES (Uses)
(process for the prepn. of pharmaceutically acceptable salts of (SS-RS)-S-adenosyl-L-methionine)

IT 375818-09-0, Resindion 825L
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(process for the prepn. of pharmaceutically acceptable salts of (SS-RS)-S-adenosyl-L-methionine)

IT **91279-78-6 375798-65-5**
RL: REM (Removal or disposal); PROC (Process)
(process for the prepn. of pharmaceutically acceptable salts of (SS-RS)-S-adenosyl-L-methionine)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Fiecchi, A; US 3954726 A 1976 HCAPLUS
(2) Gennari, F; US 4621056 A 1986 HCAPLUS
(3) Hoffman, J; BIOCHEMISTRY 1986, V25, P4444 HCAPLUS
(4) Nippon Zeon Co; FR 2531714 A 1984 HCAPLUS

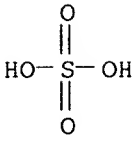
IT **375798-66-6P**
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)
(process for the prepn. of pharmaceutically acceptable salts of (SS-RS)-S-adenosyl-L-methionine)

RN 375798-66-6 HCAPLUS

CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, sulfate (salt), 4-methylbenzenesulfonate (salt) sulfate (salt) (1:1:1:1) (9CI) (CA INDEX NAME)

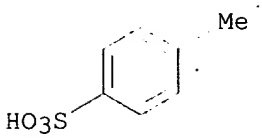
CM 1

CRN 7664-93-9
CMF H2 O4 S



CM 2

CRN 104-15-4
CMF C7 H8 O3 S



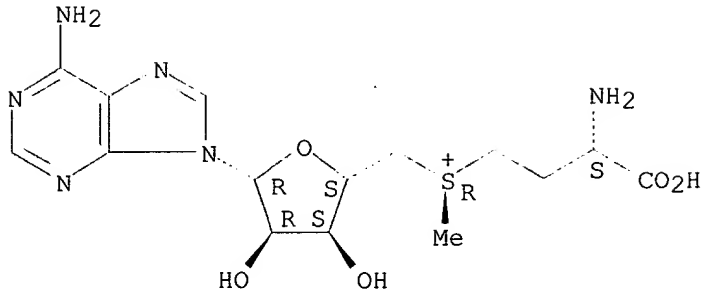
CM 3

CRN 79297-30-6
CMF C15 H23 N6 O5 S . H O4 S

CM 4

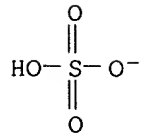
CRN 60018-86-2
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 5

CRN 14996-02-2
CMF H O4 S



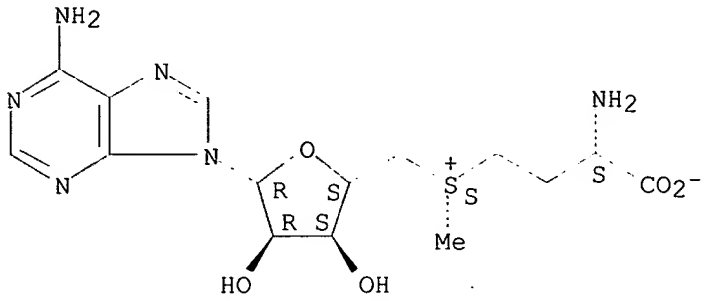
IT **78548-84-2P**

RL: BPN (Biosynthetic preparation); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)
(process for the prepn. of pharmaceutically acceptable salts of (SS-RS)-S-adenosyl-L-methionine)

RN 78548-84-2 HCAPLUS

CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, inner salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.



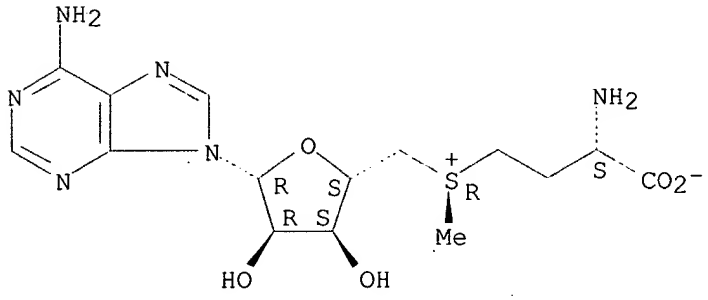
IT **91279-78-6 375798-65-5**

RL: REM (Removal or disposal); PROC (Process)
(process for the prepn. of pharmaceutically acceptable salts of (SS-RS)-S-adenosyl-L-methionine)

RN 91279-78-6 HCAPLUS

CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, inner salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

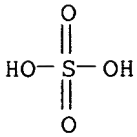


RN 375798-65-5 HCAPLUS

CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, sulfate (salt), 4-methylbenzenesulfonate (salt) sulfate (salt) (1:1:1:1) (9CI) (CA INDEX NAME)

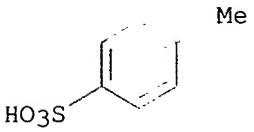
CM 1

CRN 7664-93-9
CMF H2 O4 S



CM 2

CRN 104-15-4
CMF C7 H8 O3 S



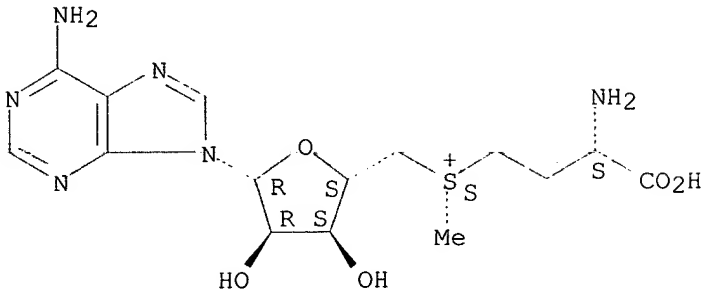
CM 3

CRN 79297-29-3
CMF C15 H23 N6 O5 S . H O4 S

CM 4

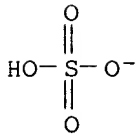
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 5

CRN 14996-02-2
CMF H O4 S



L61 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:283779 HCAPLUS
DN 134:300801
TI Nutraceutical products containing S-adenosyl-L-methionine and dietary supplements
IN Howard, Larry
PA Pharmnseas, Inc., USA

SO PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DT **Patent**
LA English
IC ICM A61K031-12
ICS A61K031-20; A61K031-40; A61K031-66; A61K031-70; A61K035-78; A61K039-385
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 17
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001026646	A1	20010419	WO 2000-US27559	20001006 <--

PI WO 2001026646
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRAI US 1999-158298P P 19991008 <--
US 1999-158328P P 19991008 <--
US 1999-158329P P 19991008 <--
US 1999-158480P P 19991008 <--
US 1999-158482P P 19991008 <--

AB A nutraceutical product comprises a mixt. S-adenosyl-L-methionine (SAMe) and a dietary supplement, where the moisture content of the product is <5% by wt. A nutraceuticallly preferred product includes a mixt. of (RS)-(+)-SAMe and (SS)-(+)-SAMe diastereoisomers, with the (SS)-(+)-SAMe diastereoisomer being at a concn. of at least 95% of the mixt. Thus, a compn. contained Kava Kava contg. 30% kavalactones 35.3, SAMe tosylate salt 47.1, Valerian 5.9, excipients and fillers 200 kg and was filled into capsules.

ST adenosylmethionine nutraceutical dietary supplement; methionine adenosine nutraceutical dietary supplement

IT Drug delivery systems
(caplets; nutraceutical products contg. adenosylmethionine and dietary supplements)

IT Drug delivery systems
(capsules; nutraceutical products contg. adenosylmethionine and dietary supplements)

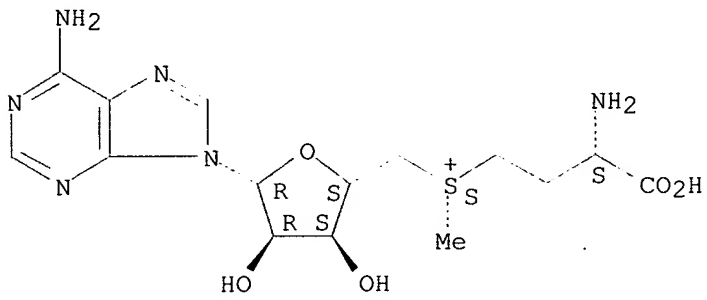
IT Collagens, biological studies
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hydrolyzates; nutraceutical products contg. adenosylmethionine and dietary supplements)

IT Antioxidants
Drug delivery systems
Epimedium pinnata
Ginkgo biloba
Guarana (Paullinia cupana)
Liver
Pepper (Piper methysticum)
St.-John's-wort (Hypericum)
Stress, animal
Valerian (Valeriana)
(nutraceutical products contg. adenosylmethionine and dietary supplements)

IT Orange
(sour; nutraceutical products contg. adenosylmethionine and dietary supplements)

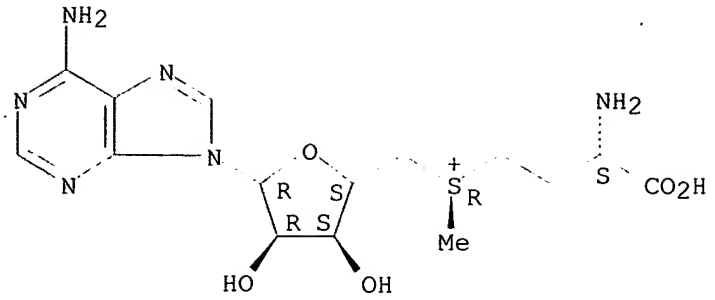
IT Diet
(supplements; nutraceutical products contg. adenosylmethionine and dietary supplements)
IT Drug delivery systems
(tablets; nutraceutical products contg. adenosylmethionine and dietary supplements)
IT 66-84-2, Glucosamine hydrochloride 67-71-0, Methylsulfonyl methane 70-18-8, Glutathione, biological studies 73-31-4, Melatonin 303-98-0, Coenzyme Q10 488-69-7, Fructose 1,6-diphosphate 987-78-0, Citicoline 2599-01-1, Cetyl myristate 3569-10-6, Valerenic acid 9004-57-3, Ethyl cellulose 9007-28-7, Chondroitin sulfate 22393-86-8, Cetyl oleate 29031-19-4, Glucosamine sulfate 29908-03-0, S-Adenosyl-L-methionine **60018-85-1 60018-86-2** 64660-84-0, Cetyl myristoleate **111136-92-6** 334792-02-8
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nutraceutical products contg. adenosylmethionine and dietary supplements)
RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Henderson; WO 9848816 A1 1998 HCAPLUS
(2) Henriksen, B; EP 913155 A2 1999 HCAPLUS
IT **60018-85-1 60018-86-2 111136-92-6**
RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nutraceutical products contg. adenosylmethionine and dietary supplements)
RN 60018-85-1 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 60018-86-2 HCAPLUS
CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

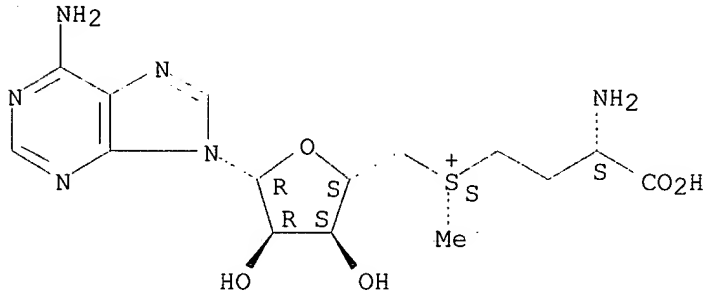


RN 111136-92-6 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

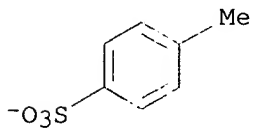
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 16722-51-3
CMF C7 H7 O3 S

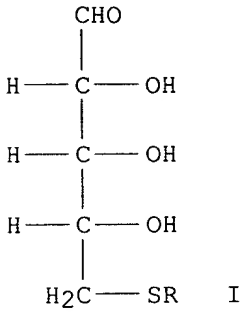


L61 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2003 ACS
AN 1995:967494 HCAPLUS
DN 124:45748
TI Preparation of 5-deoxy-5-alkylthio-D-riboses and active oxygen eliminating agents containing them
IN Kiuchi, Koji; Kumai, Juji; Morishige, Nada; Shiozaki, Shozo; Ando, Koichi
PA Nippon Zeon Co, Japan; Kagaku Gijutsucho Hoshasen Iga
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT **Patent**

LA Japanese
IC ICM A61K031-70
ICS A61K031-70
ICA C07H005-10; C07H015-14
CC 1-12 (Pharmacology)
Section cross-reference(s): 8, 27
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 07238023	A2	19950912	JP 1994-52763	19940225 <--
PRAI JP 1994-52763		19940225 <--		

OS MARPAT 124:45748
GI



I

AB Active O eliminating agents contg. the title compds. I (R = C1-6 linear or branched alkyl) or their pharmacol. acceptable salts are claimed. The agents show cytoprotective action against radiation and are useful for prevention of peroxidn. of membrane lipids, inflammation, aging, ischemic diseases, carcinogenesis, diabetes mellitus, cataract, emphysema, parkinsonism, radiation disorders caused from active O species. I.p. administration of I (R = Me) (II) (prepn. given) to mice before irradn. with .gamma.-ray significantly expanded survival rate. II showed high scavenging effect to OH radical in vitro.

ST deoxyalkylthioribose prepn radioprotectant; active oxygen scavenger deoxyalkylthioribose prepn; alkylthiodeoxyribode prepn active oxygen scavenger

IT Radioprotectants
(active O eliminating agents contg. deoxy(alkylthio)riboses for prevention of radiation disorders and other diseases)

IT Reactive oxygen species
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(active O eliminating agents contg. deoxy(alkylthio)riboses for prevention of radiation disorders and other diseases)

IT 23656-67-9P 53458-56-3P 67739-75-7P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(active O eliminating agents contg. deoxy(alkylthio)riboses for prevention of radiation disorders and other diseases)

IT 7782-44-7D, Oxygen, reactive species
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(active O eliminating agents contg. deoxy(alkylthio)riboses for prevention of radiation disorders and other diseases)

IT 2457-80-9P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(adenine removal from; active O eliminating agents contg. deoxy(alkylthio)riboses for prevention of radiation disorders and other diseases)

IT **111136-93-7P**
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(deoxy(methylthio)adenosine from; active O eliminating agents contg. deoxy(alkylthio)riboses for prevention of radiation disorders and other diseases)

IT 75-08-1, Ethyl mercaptan 513-44-0, Isobutyl mercaptan
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with Me tosylribofuranoside deriv.; active O eliminating agents contg. deoxy(alkylthio)riboses for prevention of radiation disorders and other diseases)

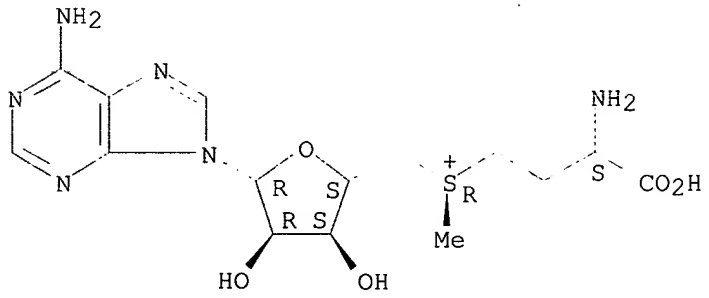
IT **111136-93-7P**
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(deoxy(methylthio)adenosine from; active O eliminating agents contg. deoxy(alkylthio)riboses for prevention of radiation disorders and other diseases)

RN 111136-93-7 HCAPLUS
CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

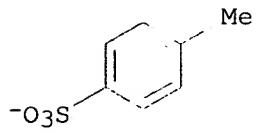
CRN 60018-86-2
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



L61 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2003 ACS
AN 1989:601390 HCAPLUS
DN 111:201390
TI Use of ademetionine against skin aging

IN Le Fur, Gerard; Bousquet, Michele; Crisafulli, Emilio; Sabadie, Michel
PA SANOFI, Fr.
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT **Patent**
LA French
IC ICM A61K031-70
CC 62-4 (Essential Oils and Cosmetics)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 318393	A1	19890531	EP 1988-402968	19881125 <--
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	FR 2623396	A1	19890526	FR 1987-16349	19871125 <--
	FR 2623396	B1	19900330		
	JP 01193206	A2	19890803	JP 1988-299378	19881125 <--
	US 4956173	A	19900911	US 1988-275834	19881125 <--
PRAI	FR 1987-16349		19871125 <--		

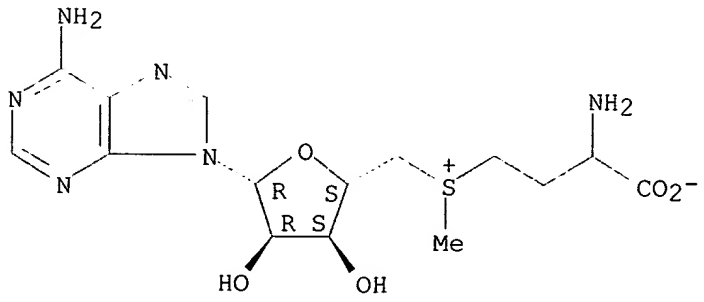
AB Ademetionine and its salts are used in pharmaceutical or cosmetic compns. to protect against skin aging; ademetionine salts are preferred for use in the cosmetic compns. A prepn. for immediate use contained ademetionine disulfate di-p-toluenesulfonate (0.1%) as active ingredient, as well as Solutol HS 15 (2.0%), Labrafil 1944 CS (1.0%), and water to 100.0%.

ST ademetionine skin aging prevention
IT Skin, disease or disorder
(aging, prevention of, ademetionine salts for)
IT 29908-03-0, Ademetionine **58994-55-1 123396-36-1 123396-37-2 123396-48-5** 123428-22-8
RL: BIOL (Biological study)
(cosmetics contg., for skin aging prevention)
IT **58994-55-1 123396-36-1 123396-37-2 123396-48-5**
RL: BIOL (Biological study)
(cosmetics contg., for skin aging prevention)
RN 58994-55-1 HCAPLUS
RN 123396-36-1 HCAPLUS
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, inner salt, compd. with cellulose hydrogen sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 17176-17-9
CMF C15 H22 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 9032-43-3

CMF H2 O4 S . x Unspecified

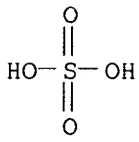
CM 3

CRN 9004-34-6
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 4

CRN 7664-93-9
CMF H2 O4 S

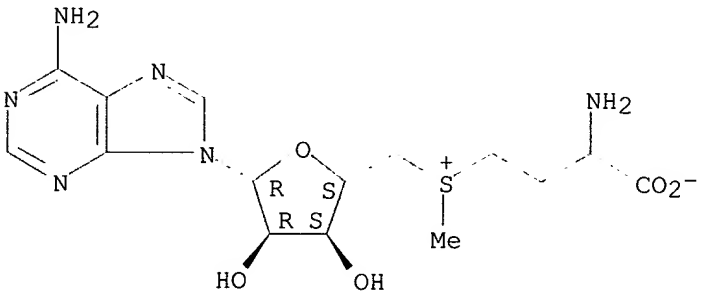


RN 123396-37-2 HCAPLUS
CN Chitin, hydrogen sulfate (ester), compd. with 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxyadenosine inner salt (9CI) (CA INDEX NAME)

CM 1

CRN 17176-17-9
CMF C15 H22 N6 O5 S

Absolute stereochemistry.

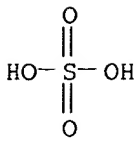


CM 2

CRN 1398-62-5
CMF H2 O4 S . x Unspecified

CM 3

CRN 7664-93-9
CMF H2 O4 S



CM 4

CRN 1398-61-4
CMF Unspecified
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 123396-48-5 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with chitosan 6-(hydrogen sulfate) (9CI) (CA INDEX NAME)

CM 1

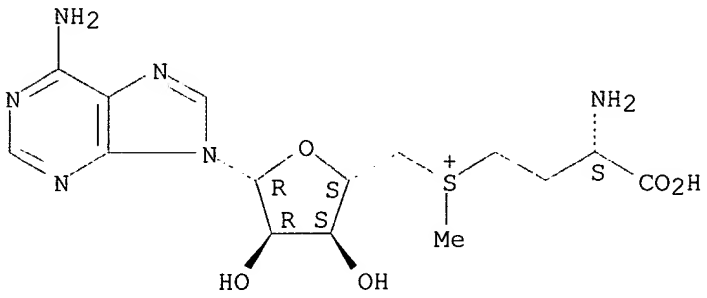
CRN 148046-68-8
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 485-80-3
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



L61 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2003 ACS
AN 1989:435586 HCAPLUS
DN 111:35586
TI Specificity of S-adenosyl-L-methionine in the inactivation and the labeling of 1-aminocyclopropane-1-carboxylate synthase isolated from tomato fruits
AU Satoh, Shigeru; Yang, Shang Fa
CS Dep. Biol. Sci., Tohoku Univ., Sendai, 980, Japan
SO Archives of Biochemistry and Biophysics (**1989**), 271(1), 107-12
CODEN: ABBIA4; ISSN: 0003-9861
DT Journal
LA English
CC 7-3 (Enzymes)
AB 1-Aminocyclopropane-1-carboxylase (ACC) synthase (I), which catalyzes the

conversion of S-adenosyl-L-methionine (AdoMet) to ACC, is irreversibly inactivated by its substrate, AdoMet. AdoMet has 2 diastereomers with respect to its sulfonium center, (-)-Ado-Met and (+)-AdoMet. The (+)- and (-)-AdoMet isomers were prepd. from a com. source, and their activities as a substrate and as an inactivator of ACC synthase isolated from tomato fruits were compared. Only (-)-AdoMet produced ACC, whereas both (-)- and (+)-AdoMet inactivated I; (+)-AdoMet inactivated I 3-fold faster than (-)-AdoMet. Previously, it was shown that I was specifically radiolabeled when the enzyme was incubated with S-adenosyl-L-[3,4-14C]methionine. The present results further indicated that S-adenosyl-L-[carboxyl-13C]methionine, but not S-adenosyl-L-[methyl-14C]methionine, radiolabeled I. The data suggested that the 2-aminobutyric acid portion of AdoMet is linked to I during the autoinactivation process. A possible mechanism for I inactivation by AdoMet was discussed.

ST adenosylmethionine stereospecificity aminocyclopropanecarboxylate synthase tomato

IT Tomato
(aminocyclopropanecarboxylate synthase of, interaction of, with adenosylmethionine diastereomers)

IT Resolution
(of adenosylmethionine diastereoisomers)

IT Stereochemistry
(of aminocyclopropanecarboxylate synthase reaction with adenosylmethionine diastereomers)

IT **79297-28-2**
RL: BIOL (Biological study)
(aminocyclopropanecarboxylate synthase inhibition by)

IT **79297-27-1**
RL: BIOL (Biological study)
(aminocyclopropanecarboxylate synthase interaction with, as substrate and inhibitor)

IT 121387-45-9 121387-46-0
RL: BIOL (Biological study)
(labeling with, of aminocyclopropanecarboxylate synthase)

IT 72506-68-4, 1-Aminocyclopropane-1-carboxylate synthase
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with adenosylmethionine diastereomers, stereospecificity of)

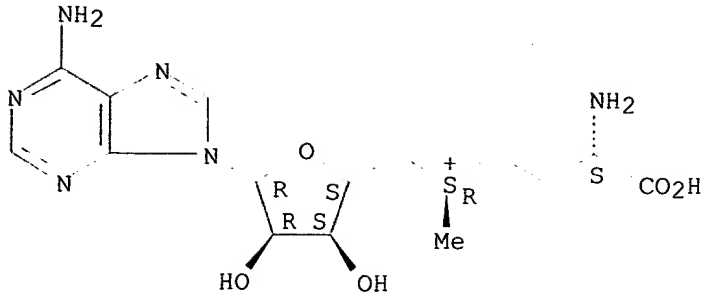
IT **24346-00-7**
RL: PROC (Process)
(resoln. of)

IT **79297-28-2**
RL: BIOL (Biological study)
(aminocyclopropanecarboxylate synthase inhibition by)

RN 79297-28-2 HCAPLUS

CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, chloride, [R-(R*,S*)]- (9CI) (CA INDEX NAME)

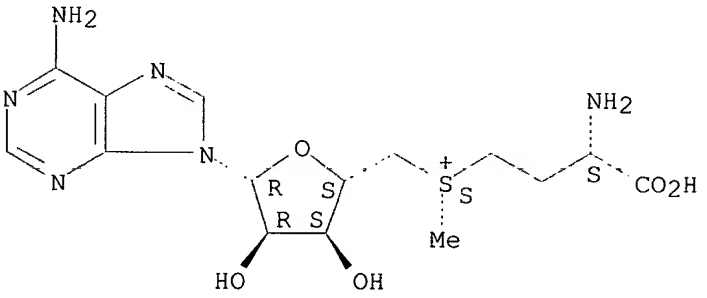
Absolute stereochemistry.



● Cl⁻

IT **79297-27-1**
RL: BIOL (Biological study)
(aminocyclopropanecarboxylate synthase interaction with, as substrate and inhibitor)
RN 79297-27-1 HCAPLUS
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, chloride, [S-(R*,R*)]- (9CI) (CA INDEX NAME)

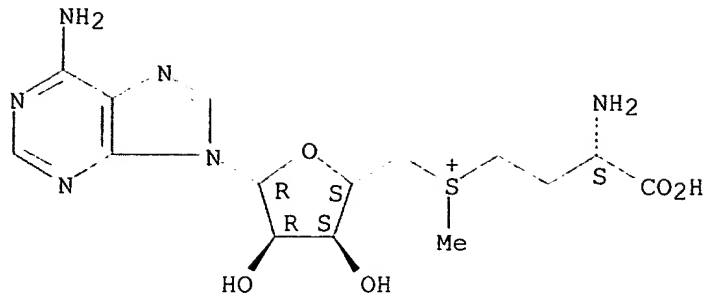
Absolute stereochemistry.



● Cl⁻

IT **24346-00-7**
RL: PROC (Process)
(resoln. of)
RN 24346-00-7 HCAPLUS
CN Adenosine, 5'-[[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, chloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.



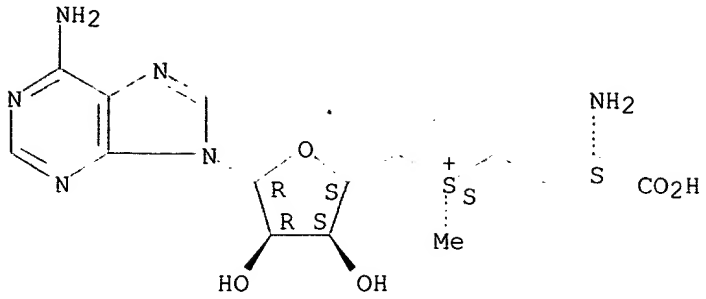
● Cl⁻

L61 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2003 ACS
AN 1987:598873 HCAPLUS
DN 107:198873
TI S-Adenosylmethionine: stability and stabilization
AU Matos, Jose R.; Wong, Chi Huey
CS Dep. Chem., Texas A and M Univ., College Station, TX, 77843, USA
SO Bioorganic Chemistry (**1987**), 15(1), 71-80
CODEN: BOCMBM; ISSN: 0045-2068
DT Journal
LA English
CC 34-2 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 22, 33
AB A kinetic study was carried out on the stability of (-)-S-adenosylmethionine [(-)-I] in soln. to decompn. and epimerization, using a HPLC technique for the sepn. of both (+)- and (-)-I and 1H NMR anal. of the epimeric S-CH3 chem. shifts. The results obtained from the effects of pH, temp., and sulfonium counterions on the stability of I indicate that the epimerization proceeds through pyramidal inversion of the sulfonium pole. The optimal conditions for I be stable in soln. to decompn. and epimerization is to keep the compd. at pH 3-5, contg. an excess of large-size, nonnucleophilic counterions such as tosylate or sulfate.
ST adenosylmethionine stability epimerization
IT Decomposition
Epimerization and Anomerization
Kinetics of decomposition
Kinetics of epimerization
(of S-adenosylmethionine)
IT **79297-29-3 79297-30-6 111136-92-6**
111136-93-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(decompn. or epimerization of, kinetics of)
IT **79297-29-3 79297-30-6 111136-92-6**
111136-93-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(decompn. or epimerization of, kinetics of)
RN 79297-29-3 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, sulfate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

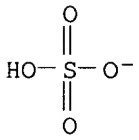
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 14996-02-2
CMF H O4 S

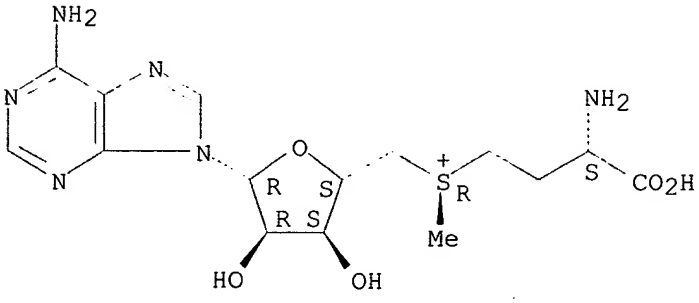


RN 79297-30-6 HCAPLUS
CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, sulfate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

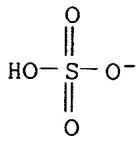
CRN 60018-86-2
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 14996-02-2
CMF H O4 S

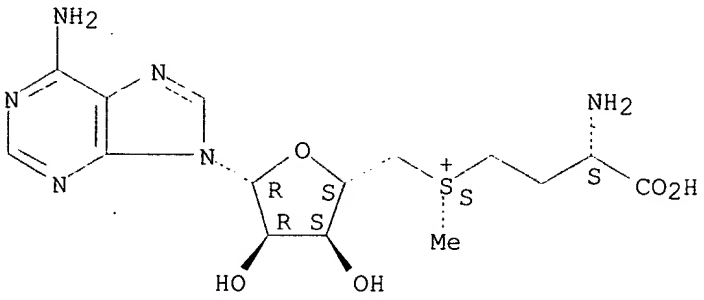


RN 111136-92-6 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

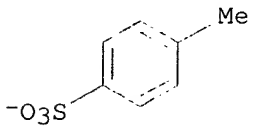
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 16722-51-3
CMF C7 H7 O3 S

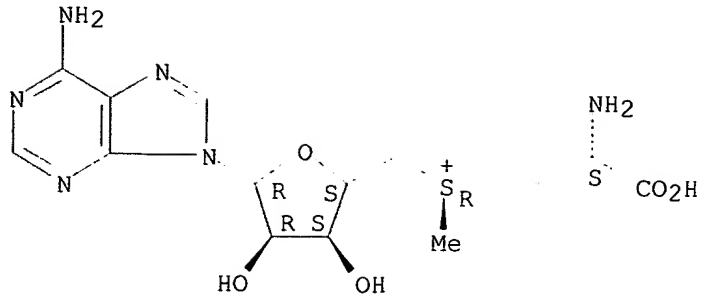


RN 111136-93-7 HCAPLUS
CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

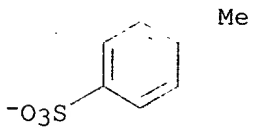
CRN 60018-86-2
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



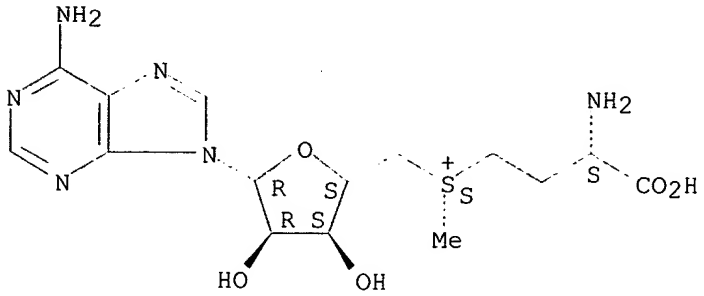
L61 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2003 ACS
AN 1981:551125 HCAPLUS
DN 95:151125
TI S-adenosyl-L-methionine and S-adenosyl-L-homocysteine, an NMR study
AU Stolowitz, Mark L.; Minch, M. J.
CS Chem. Dep., Univ. Pac., Stockton, CA, 95211, USA
SO Journal of the American Chemical Society (**1981**), 103(20), 6015-19
CODEN: JACSAT; ISSN: 0002-7863.
DT Journal
LA English
CC 34-2 (Synthesis of Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 22, 33
AB The conformations of the title compds. (I and II, resp.) were detd. from their 360-MHz 1H NMR in D2O. The ribose of both compds. has a C3'-exo conformation, but I has 1 favored gauche-anti conformation about the C4'-C5' bond, whereas the orientation about the C4'-C5' bond of II is distributed between 2 gauche-anti rotamers. The methionine side chain of I undergoes rapid rotation about the C.alpha.-C.beta. and C.beta.-C.gamma. bonds, whereas the side chain of II has a preference for the gauche-anti conformations about the C.alpha.-C.beta. bond. The 1H and 13C NMR of com. available (-)-I indicated the presence of a small amt. of the (+)-sulfonium diastereomer.
ST conformation adenosylmethionine adenoylhomocysteine NMR; methionine adenosyl NMR; homocysteine adenosyl NMR
IT Nuclear magnetic resonance
(of adenosylmethionine and adenosylhomocysteine)
IT Conformation and Conformers
(of adenosylmethionine and adenosylhomocysteine, NMR in relation to)
IT 524-70-9 **79297-25-9 79297-26-0 79297-27-1 79297-28-2 79297-29-3 79297-30-6**
RL: PRP (Properties)
(NMR of)
IT 979-92-0 29908-03-0

RL: PRP (Properties)
(NMR of, conformation in relation to)

IT **79297-25-9 79297-26-0 79297-27-1**
79297-28-2 79297-29-3 79297-30-6
RL: PRP (Properties)
(NMR of)

RN 79297-25-9 HCAPLUS
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, iodide, [S-(R*,R*)]- (9CI) (CA INDEX NAME)

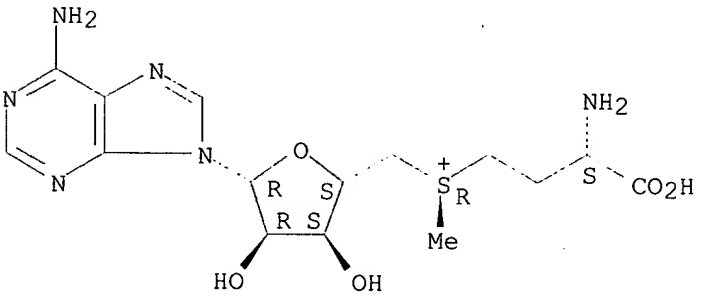
Absolute stereochemistry.



● I^-

RN 79297-26-0 HCAPLUS
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, iodide, [R-(R*,S*)]- (9CI) (CA INDEX NAME)

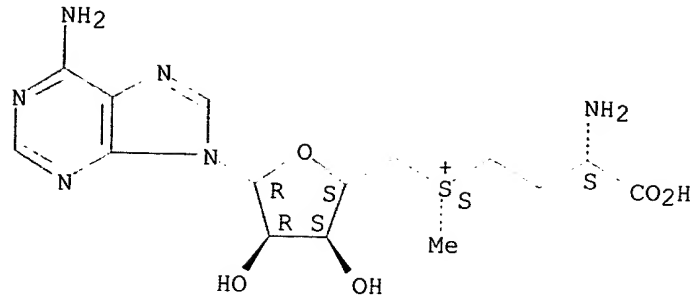
Absolute stereochemistry.



● I^-

RN 79297-27-1 HCAPLUS
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, chloride, [S-(R*,R*)]- (9CI) (CA INDEX NAME)

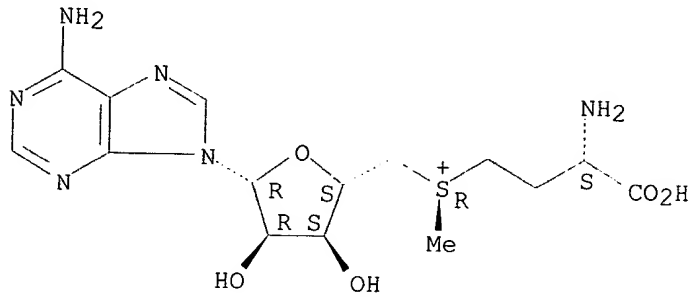
Absolute stereochemistry.



● Cl^-

RN 79297-28-2 HCAPLUS
CN Adenosine, 5'-[(3-amino-3-carboxypropyl)methylsulfonio]-5'-deoxy-, chloride, [R-(R*,S*)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



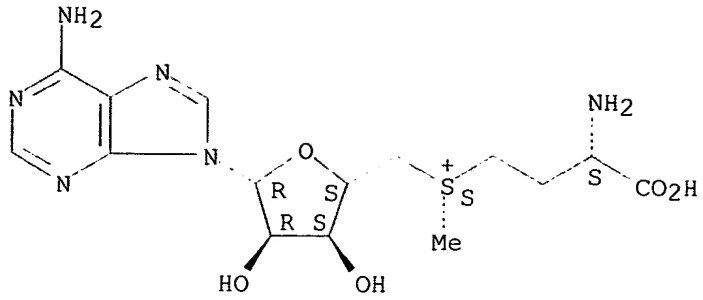
● Cl^-

RN 79297-29-3 HCAPLUS
CN Adenosine, 5'-[(S)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, sulfate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

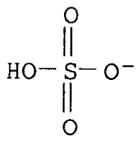
CRN 60018-85-1
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



CM 2

CRN 14996-02-2
CMF H O4 S

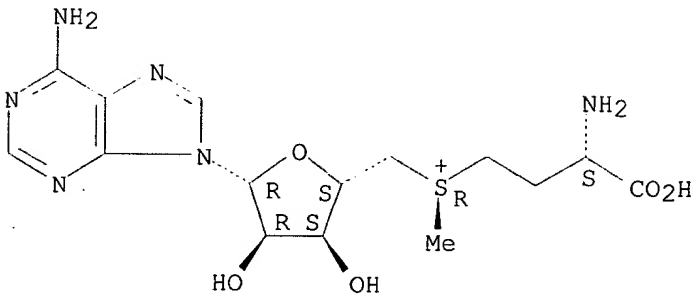


RN 79297-30-6 HCAPLUS
CN Adenosine, 5'-[(R)-[(3S)-3-amino-3-carboxypropyl]methylsulfonio]-5'-deoxy-, sulfate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

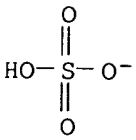
CRN 60018-86-2
CMF C15 H23 N6 O5 S

Absolute stereochemistry.



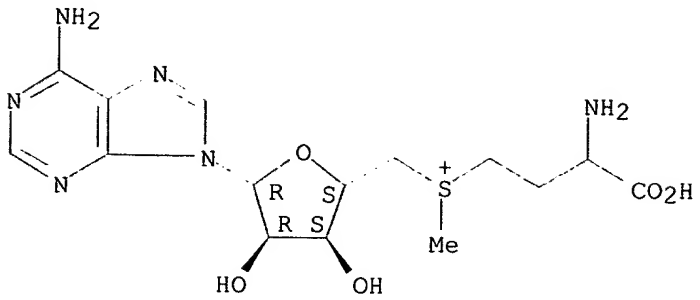
CM 2

CRN 14996-02-2
CMF H O4 S



L61 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2003 ACS
AN 1959:2347 HCAPLUS
DN 53:2347
OREF 53:477d-f
TI S-Adenosyl-L-methionine in the synthesis of choline, creatine, and cysteine in vivo and in vitro
AU Stekol, Jakob A.; Anderson, Ethel I.; Weiss, Sidney
CS Inst. for Cancer Research, Philadelphia, PA
SO J. Biol. Chem. (**1958**), 233, 425-9
DT Journal
LA Unavailable
CC 11A (Biological Chemistry: General)
AB cf. C.A. 50, 1161h. A convenient method is described for the isolation of isotopically labeled S-adenosylmethionine and S-adenosylethionine as the HBr salts from yeast cultures which were incubated with methionine or ethionine, resp. In expts. in vitro, S-adenosyl-L-methionine-Me-C14 was a far more efficient source of C14H3 in the synthesis of choline and creatine than was methionine-Me-C14. In intact animals the extent of incorporation of the C14 of methionine-Me-C14 into tissue choline was greater than that from S-adenosyl-L-methionine-Me-C14, the reverse being true in the case of incorporation of C14 into tissue creatine-creatinine. In liver homogenates, S-adenosyl-L-methionine was a better source of homocysteine than was methionine in the synthesis of cysteine from serine but it was less efficient in the synthesis of cysteine, in the presence of serine, than homocysteine. Apparently, the synthesis in vitro of cysteine from S-adenosyl-L-methionine and serine is limited by the extent of formation of S-adenosylhomocysteine or by the extent of formation of homocysteine from S-adenosylhomocysteine.
IT Methyl group
(donors of, S-adenosylmethionine as)
IT Adenosine, 5'-thio-, ethionine deriv.
(as Me group donor in formation of choline and creatine)
IT Cysteine
(formation of, S-adenosyl-L-methionine in)
IT Butyric acid, 2-amino-4-(ethylthio)-, 5'-deoxyadenosine deriv.
(isolation from yeast culture incubated with ethionine)
IT 14762-75-5, Carbon, isotope of mass 14
(as indicator, of S-adenosyl-L-methionine metabolism)
IT **97574-97-5**, Methionine, S-adenosyl-, bromide
(as methyl group donor in formation of choline and creatine)
IT 18155-21-0, Sulfonium
(compds., active ethionine, isolation from yeast culture incubated with ethionine)
IT 18155-21-0, Sulfonium
(compds., active methionine, in formation of choline and creatine)
IT 57-00-1, Creatine 62-49-7, Choline
(formation of, S-adenosyl-L-methionine in)
IT 13281-84-0, Ethionine, S-adenosyl-, bromide
(isolation from yeast culture incubated with ethionine)
IT **97574-97-5**, Methionine, S-adenosyl-, bromide
(as methyl group donor in formation of choline and creatine)
RN 97574-97-5 HCAPLUS
CN Methionine, S-adenosyl-, bromide (6CI, 7CI) (CA INDEX NAME)

Absolute stereochemistry.



● Br^-

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=> d his

     (FILE 'HOME' ENTERED AT 13:42:19 ON 22 MAR 2003)
               SET COST OFF

     FILE 'HCAPLUS' ENTERED AT 13:42:32 ON 22 MAR 2003
               E HEBERT R/AU
L1          25 S E3,E29,E32,E33
               SEL RN

     FILE 'REGISTRY' ENTERED AT 13:43:05 ON 22 MAR 2003
L2         209 S E1-E209
L3          58 S L2 AND OC4/ES AND S/ELS AND N/ELS AND NR>=2
L4           3 S L3 AND 1/NC
L5          49 S L3 AND C15H23N6O5S
L6           1 S 60018-86-2
L7          40 S L5 NOT 60018-86-2/CRN
L8           1 S 60018-85-1
L9          11 S L7 NOT 60018-85-1/CRN
L10          1 S 485-80-3
L11          0 S L9 NOT 485-80-3/CRN
L12          2 S 91279-78-6 OR 78548-84-2
L13          1 S 29908-03-0
L14          4 S L6,L8,L12
L15          2 S L10,L13
               E C15H23N6O5S/MF
L16         17 S E3
L17         17 S L16 AND OC4/ES AND NCNC2-NCNC3/ES AND 3/NR
L18         15 S L17 NOT L14
L19         14 S L18 NOT L15
L20          3 S L19 NOT (LABELED OR ION OR (D OR T)/ELS OR 11C# OR 13C# OR 14
L21          2 S L20 NOT CARBOXYMETHYL
L22          6 S L14,L21
               E C15H22N6O5S/MF
L23         45 S E3 AND OC4/ES AND NCNC2-NCNC3/ES AND 3/NR
L24         22 S L23 NOT (LABELED OR ION OR (D OR T)/ELS OR 11C# OR 13C# OR 14
L25         19 S L24 NOT L14,L15
L26         14 S L25 NOT METHYLSULFONIO
L27          5 S L25 NOT L26
L28          4 S L27 NOT 35S
L29         12 S L14,L15,L22,L28
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FILE 'REGISTRY' ENTERED AT 13:52:18 ON 22 MAR 2003
L30 11 S L29 NOT L13
SEL RN
L31 238 S E1-E11/CRN
L32 50 S L31 NOT 485-80-3/CRN
L33 32 S L32 NOT (COMPD OR WITH)
L34 18 S L32 NOT L33
L35 50 S L2 AND L31
L36 11 S L35 NOT L32
L37 0 S L36 NOT 485-80-3/CRN

FILE 'HCAPLUS' ENTERED AT 13:57:42 ON 22 MAR 2003
L38 68 S L30
L39 102 S L31
L40 1 S L38,L39 AND L1
L41 1 S L13 AND L1
L42 1 S L40,L41

FILE 'REGISTRY' ENTERED AT 13:59:14 ON 22 MAR 2003
L43 21 S 29908-03-0/CRN

FILE 'HCAPLUS' ENTERED AT 13:59:41 ON 22 MAR 2003
L44 1 S L43 AND L1
L45 1 S L42,L44
L46 13 S L43
L47 177 S L38,L39,L46
L48 176 S L47 NOT L45
L49 166 S L48 AND (PD<=20000830 OR PRD<=20000830 OR AD<=20000830)

FILE 'REGISTRY' ENTERED AT 14:02:27 ON 22 MAR 2003
L50 12 S L4,L6,L8,L10,L12-L15,L22,L29

FILE 'HCAPLUS' ENTERED AT 14:07:15 ON 22 MAR 2003
L51 52 S L49 AND P/DT
L52 23 S L51 AND (US/PC OR US/PRC OR US/AC)
L53 29 S L51 NOT L52

FILE 'HCAPLUS' ENTERED AT 14:09:19 ON 22 MAR 2003
L54 21 S L52 AND L39
L55 2 S L52 NOT L54

FILE 'REGISTRY' ENTERED AT 14:13:00 ON 22 MAR 2003
L56 188 S 485-80-3/CRN
L57 50 S L31 NOT L56

FILE 'HCAPLUS' ENTERED AT 14:13:55 ON 22 MAR 2003
L58 11 S L57
L59 8 S L58 AND L49
L60 4 S L59 AND L51
L61 8 S L59,L60
L62 18 S L54 NOT L61